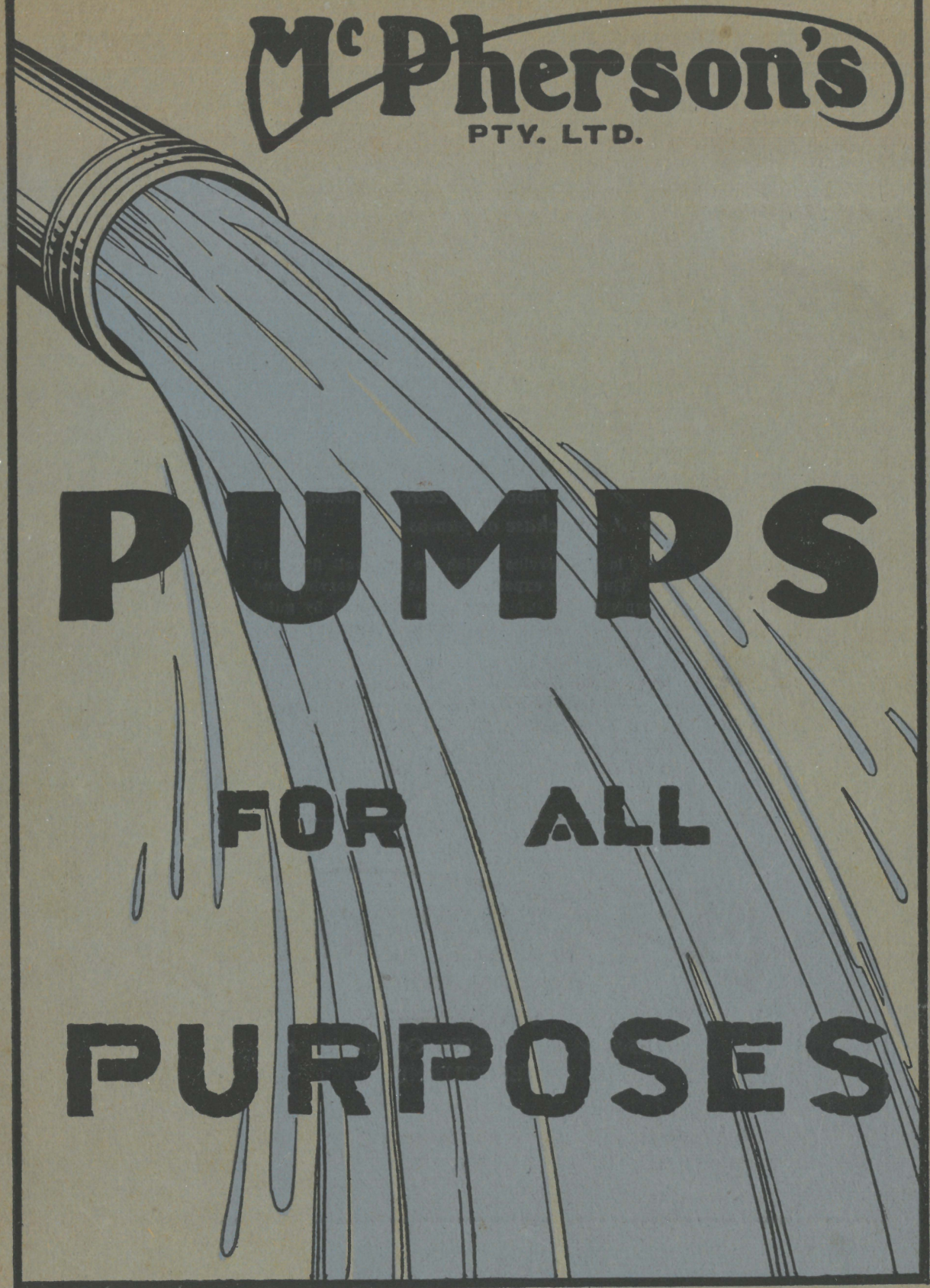
McPherson's
PTY. LTD.



PUMPS
FOR ALL
PURPOSES

PROFITABLE PUMPING

PROBABLY with no other equipment for the Agriculturist is there such an urgent necessity for cautious buying as there is with pumping appliances.

Injudicious purchasing may result in having a pump that is really not suitable for the work to be done. The inevitable consequences are loss of time, loss of profits, loss of efficiency generally, or needlessly heavy running costs.

With so many factors to be considered, great care should be exercised always in the purchase of pumps.

This is the service which we are well fitted to offer. Our long experience is at your service, and our experts will safeguard your interests by guiding you in the selection of the most efficient pump for your purpose.

Make sure that you choose pumps which will give long, trouble-free service, which will operate at a minimum cost, and which are adaptable to as many purposes as possible—then you may be assured of PROFITABLE PUMPING.

McPherson's
Proprietary Limited

Established 1860

554-566 and 582-592 Collins Street
MELBOURNE

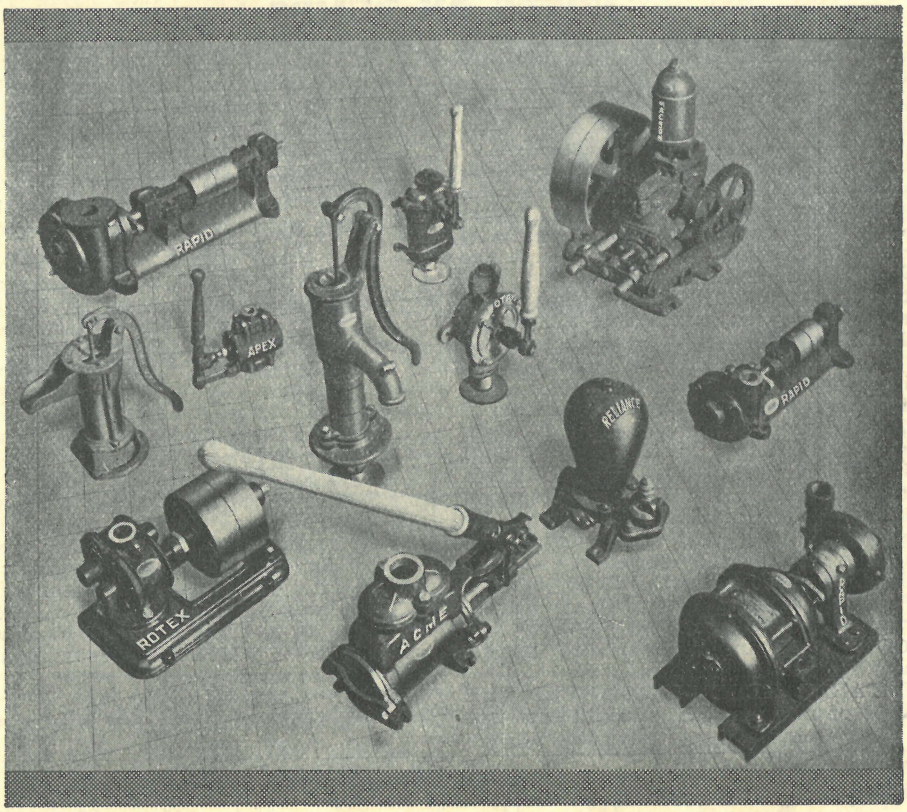
And at

116-130 Waymouth St.	51-65 Bathurst St.	532 Murray St.
ADELAIDE	SYDNEY	PERTH

N, A0465
22-4-93

Pump Selection Made Easy

Selection of the most suitable Pump becomes easy when you enlist the aid of McPherson's—who have been Pump Specialists for a lifetime—who offer, without obligation, the free advice of a staff of Experts—who make all classes of Pumps at their modern Australian Workshops—and who regard the inquirer's interests, from first to last, as their own.



McPherson's
Proprietary Limited

DEPENDABLE GOODS SINCE 1860

582-592 COLLINS ST., MELBOURNE

51-65 Bathurst Street, Sydney
116-130 Waymouth Street, Adelaide
532 Murray Street, Perth

A Pump for Every Purpose

PUMPS

When ordering Pumps, please give the following information:—

1. For what purpose is Pump required?
2. State approximate gallons required per hour.
3. Is water hot or cold, clean or gritty, and does it contain any chemical ingredients?
4. Vertical height from lowest summer level of water to proposed Pump site.
5. Length of pipe from water level to Pump site.
6. Vertical height from Pump to highest point of discharge.
7. Length of pipes from Pump to point of discharge.
8. Are the pipes laid, or have you any which you would prefer to use? If so, please state sizes and lengths.
9. Do you propose operating Pump by hand, windmill, oil engine, or electric motor?
10. Give speed of engine or motor, and sizes of any pulleys which may be used.
11. It will help our experts considerably if clients will enclose a rough sketch of **Pump site, setting out the above details.**

NOTES ON PUMPS

1. To GIVE SATISFACTION, a pump must be suitable for its duties and properly installed.
2. THE SUCCESSFUL ACTION of a pump depends, firstly, on the suction pipe joints being absolutely air tight.
3. TOTAL SUCTION HEAD should never exceed 20 to 25 feet. This may be computed by adding together the vertical height from lowest summer water level to centre of pump and the friction in the suction piping (see table below).
4. HORIZONTAL SUCTION PIPES when necessary should always fall from the pump; all air will then pass upwards. When this is not convenient care must be exercised to see that there is no chance of air lodging along the top of the inside of piping. If this may occur it is absolutely essential to fit cocks so that all air may be allowed to escape. When different sizes of horizontal suction piping are used air cocks are generally necessary. The shorter the suction piping the greater the efficiency. Never use elbows, and as few bends as possible. When convenient, keep piping underground to avoid frost.
5. A FOOTVALVE and strainer are in all cases recommended.
6. DELIVERY PIPES should not be of less diameter than half the bore of the working barrel, and, if of considerable length, larger than this. If delivery pipes are of small diameter, great friction is caused, and much more power than necessary is required to work the pump.
7. STATIC HEAD.—This means the height the point of discharge is above the level of the water being pumped.
8. FRICTION HEAD is the term applied to the resistance caused by the friction of the flowing water against the pipe interior. This friction cuts down the effectiveness of the power used, and should be reduced as much as possible. A small pipe offers more friction to a given flow of water than does a larger pipe. Therefore, pipes, of large diameter, and with few bends, are more economical, in the end, as less power is required to pump through them. For instance, if a 1 in. Two-Stage "Rapid" Centrifugal Pump is required to pump water 95 ft. vertically through 300 ft. piping, all 2½ in. piping will be required so as to bring the total head within the 100 ft., which is the maximum head for this pump.

THE TABLE HEREUNDER GIVES THE FRICTION LOSS, in feet, due to friction, in various sizes of new, smooth, straight cast iron pipes per 100 feet, when discharging the stated quantities per minute.

Imperial Gallons per minute.	DIAMETER OF PIPE IN INCHES.										
	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	5"	6"	7"
5	14.5	3.4	1.2	.45	—	—	—	—	—	—	—
8	—	8.8	2.8	1.1	.27	—	—	—	—	—	—
10	—	13.6	4.5	1.9	.42	—	—	—	—	—	—
15	—	34.0	10.0	4.5	1.0	—	—	—	—	—	—
20	—	54.6	17.9	7.2	1.7	.56	.22	—	—	—	—
30	—	—	40.4	16.2	3.8	1.2	.5	—	—	—	—
40	—	—	—	28.5	6.6	2.2	.9	.21	—	—	—
50	—	—	—	45.0	10.6	3.5	1.4	.33	—	—	—
60	—	—	—	65.0	15.4	5.0	2.0	.48	.15	—	—
70	—	—	—	88.3	21.0	6.8	2.7	.65	.21	—	—
80	—	—	—	—	27.2	8.9	3.6	1.08	.26	.11	—
90	—	—	—	—	34.2	11.2	4.5	1.0	.35	.14	—
100	—	—	—	—	42.6	14.0	5.6	1.3	.43	.17	—
120	—	—	—	—	—	20.2	8.1	1.9	.63	.25	—
140	—	—	—	—	—	27.3	11.0	2.6	.86	.33	—
150	—	—	—	—	96.0	31.5	12.5	3.0	—	—	—
160	—	—	—	—	—	35.9	14.3	3.4	1.1	.45	—
180	—	—	—	—	—	45.0	18.0	4.3	1.4	.56	—
200	—	—	—	—	—	56.1	22.5	5.3	1.7	.70	.32
250	—	—	—	—	—	87.0	35.0	8.3	2.7	1.1	.51
300	—	—	—	—	—	126.0	50.8	12.0	3.9	1.6	.72

Table showing head of water in feet and approximate discharge in gallons per minute for lines of piping half-inch bore to 6-inch bore, allowing for an average number of bends and fittings.

PART 1.—This gives approximate Discharge under a Head of from 1 foot to 500 feet for Pipe Line 1,000 feet in length.

Head (or Fall) in Feet.	Discharge in Gallons per Minute. Internal Diameter of Pipe. ½-in.	¾-in.	1-in.	1¼-in.	1½-in.	2-in.	2½-in.	3-in.	3½-in.	4-in.	5-in.	6-in.	Head (or Fall) in Feet.
1	.16	.45	.93	1.63	2.57	5.28	9.22	14.5	21.3	29.8	52.1	82.2	1
2	.23	.64	1.32	2.30	3.63	7.46	13.0	20.5	30.1	42.1	73.6	116.0	2
4	.33	.91	1.87	3.26	5.14	10.6	18.4	29.1	42.7	59.6	104.0	164.0	4
6	.40	1.11	2.29	3.98	6.29	12.9	22.5	35.5	52.2	73.0	127.0	201.0	6
9	.49	1.36	2.80	4.88	7.71	15.9	27.7	43.6	64.1	89.5	156.0	246.0	9
12	.57	1.57	3.25	5.64	8.90	18.3	32.0	50.4	74.0	103.0	180.0	285.0	12
16	.66	1.81	3.73	6.51	10.3	21.1	36.9	58.1	85.4	119.0	208.0	329.0	16
20	.74	2.03	4.18	7.28	11.5	23.6	41.2	64.9	95.4	133.0	233.0	367.0	20
25	.82	2.27	4.67	8.14	12.9	26.4	46.1	72.6	106.0	149.0	260.0	411.0	25
30	.90	2.48	5.11	8.92	14.1	28.8	50.5	79.5	116.0	163.0	285.0	450.0	30
40	1.04	2.88	5.91	10.3	16.3	33.5	58.3	92.0	135.0	188.0	329.0	520.0	40
50	1.16	3.21	6.61	11.5	18.2	37.4	65.2	102.0	150.0	210.0	368.0	581.0	50
75	1.42	3.93	8.10	14.1	22.3	45.7	79.9	125.0	184.0	258.0	451.0	712.0	75
100	1.65	4.55	9.35	16.3	25.7	52.8	92.2	145.0	213.0	298.0	521.0	822.0	100
150	2.03	5.59	11.5	19.9	31.5	64.9	113.0	178.0	262.0	366.0	637.0	1011.0	150
200	2.33	6.42	13.2	23.0	36.3	74.6	130.0	205.0	301.0	421.0	736.0	1161.0	200
250	2.61	7.20	14.8	25.7	40.7	83.7	146.0	230.0	337.0	471.0	824.0	1303.0	250
500	3.69	10.20	20.9	36.4	57.5	118.0	206.0	325.0	476.0	667.0	1164.0	1840.0	500

PART 2.—When the Pipe Line is more than or less than 1,000 feet in length, the figure taken from Part 1 must be multiplied by a suitable factor chosen from the following Table:—

Length in feet	50	100	150	200	300	400	500	750	1000	1250	1500
Factor . . .	4.47	3.16	2.58	2.237	1.827	1.580	1.414	1.154	1.0	.895	.817
Length in feet	1750	2000	2500	3000	4000	5000	7500	10000	5 miles	10 miles	50 miles
Factor . . .	.756	.707	.633	.577	.500	.447	.365	.316	.195	.138	.0616

Example.—Required—approximate Discharge of a line of piping 4-in. bore, 5,000 ft. long, under 30 ft. head. Approximate Discharge for the 1,000 ft. line from Part I. is 163 gallons per minute. Factor from Part II. is .447. So that approximate Discharge will be 163 x .447, which is 72.9 gallons per minute.

Approx. Number of Gallons per Hour Pumped by Single Acting Plunger Pumps at 30 Strokes per Minute. For Double Acting Pumps Double Number Below.

Internal diameter of pump cylinder.

Stroke of Pump	1½-in.	1¾-in.	2-in.	2¼-in.	2½-in.	2¾-in.	3-in.	3¼-in.
4	—	—	80	101	127	154	180	210
5	57	78	100	126	157	192	225	262
6	69	94	120	151	190	231	270	315
	3½-in.	3¾-in.	4-in.	4½-in.	5-in.	6-in.	7-in.	8-in.
4	250	—	325	410	500	725	—	1300
5	310	355	400	510	625	900	—	1625
6	375	430	480	615	750	1080	1500	1960

For longer strokes double or treble as case may be.

A deduction of 5 per cent. to 15 per cent. should be made for slip depending on condition of pump.

H1— The "Macson" Double-Acting Piston Pump

Made at Our Own Works

On this Pump the base, cylinder, bearings, and one cylinder head are cast in one. Casting the bearings as a part of the cylinder keeps the gearing absolutely in line, greatly decreasing the wear and proportionately increasing the life of the pump. The cylinder has a solid brass liner, which is a distinct improvement on the thin liner of other makes of similar pumps, and is provided with large suction valves just below the bore of the cylinder; these valves are easily accessible through two hand holes, the covers of which can be removed by backing off one bolt. Piston and valves are easily accessible without breaking the pipe connections. Suction can be taken from either side. Discharge can be turned in four directions. The pump is geared 5 to 1.

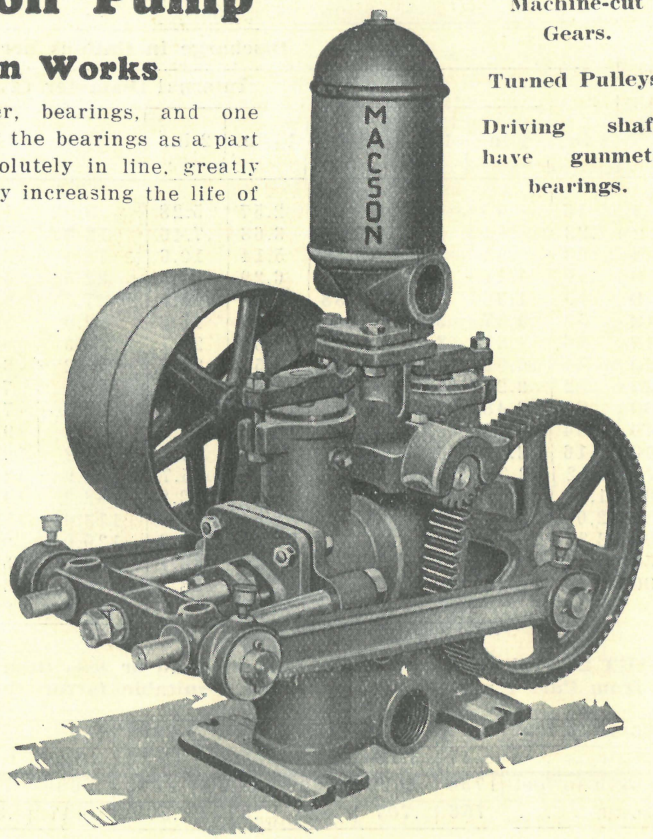
Bearings practically water jacketed.

Card of Installing and Working Instructions supplied with each Pump.

Machine-cut Gears.

Turned Pulleys.

Driving shafts have gunmetal bearings.



The "Macson" offers an ideal outfit where pumping of almost any kind is desired up to 100 pounds pressure or 250 feet elevation or for general water supply, including tank pumping for farms, railroad water stations, long distance pumping, irrigation, light oils, and spraying trees. Where a constant supply of water is necessary for the farm or country estate, the "Macson" can be profitably used.

The above ratings are conservative, as we have been advised by a number of users that "Macson" Piston Pumps are operating against heads of 300 ft.

Piston Diam. and Stroke.	Pipe Connection.	Capacity, 200 R.P.M.	Capacity, 250 R.P.M.	Fast and Loose Pulleys.	Approx. Nett Weight Lbs.	Price.	Code Words.
2½ x 4	1¼	339	424	15 x 2½	150	£16 5 0	YOZAG
3 x 5	1½	611	764	15 x 2½	301	20 0 0	YOILT
4 x 5	2	1086	1357	15 x 3	346	25 0 0	YOIPY
5 x 5	2½	1697	2040	16 x 4	529	30 0 0	YOIRB
6 x 6	3	2480	3550	20 x 4	700	57 10 0	YOZGA

Sales Tax, where applicable, must be added to all prices on this page.

Ordinary liner only in 6in. x 6in. Larger or smaller pulleys may be fitted.

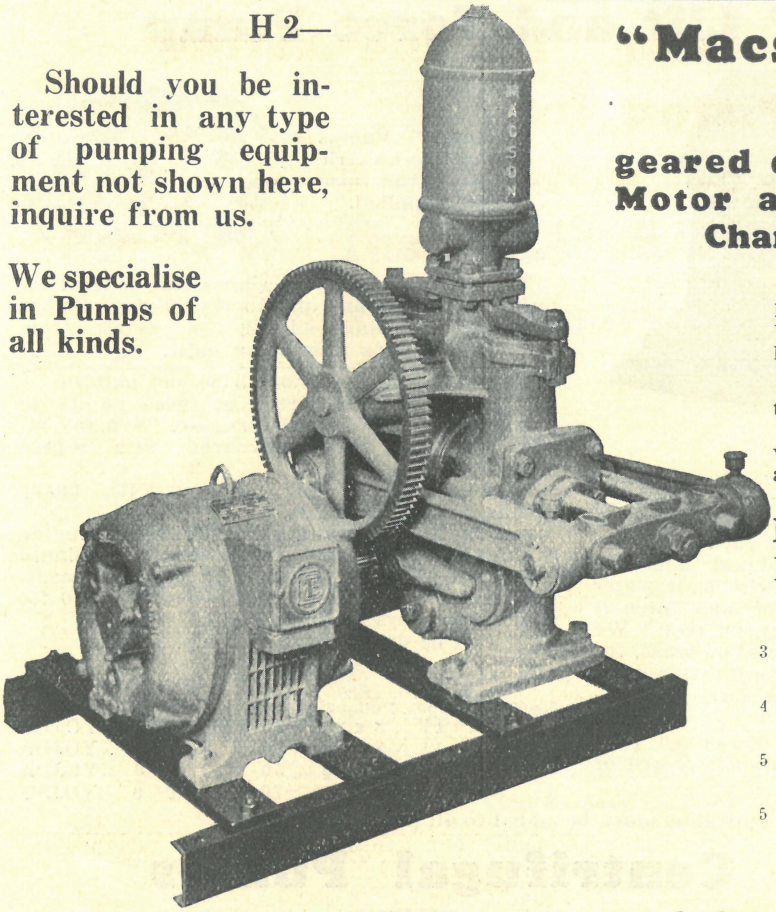
HORSE POWER REQUIRED.

	3 x 5	4 x 5	5 x 5	6 x 6
50 head, 40 strokes per minute	.25	.43	.69	1.19
50 ,, 50 ,,	.3	.5	.9	1.5
100 ,, 40 ,,	.5	.9	1.4	2.4
100 ,, 50 ,,	.6	1.0	1.7	3.0
150 ,, 40 ,,	.7	1.3	2.0	3.5
150 ,, 50 ,,	1.0	1.6	2.6	5.0
200 ,, 40 ,,	1.0	1.7	2.7	5.7
200 ,, 50 ,,	1.2	2.2	3.4	7.2
250 ,, 40 ,,	1.25	2.2	3.5	6.0
250 ,, 50 ,,	1.50	2.5	4.5	7 5

H 2—

Should you be interested in any type of pumping equipment not shown here, inquire from us.

We specialise in Pumps of all kinds.



"Macson" Piston Pump

geared direct to Electric Motor and arranged on Channel Iron Base

Being semi-portable, this compact unit is very convenient where a powerful, movable pumping plant is required.

Full particulars on application.

When inquiring please advise voltage of electric current available.

H 3—"Macson" Piston Pump Geared Direct to Oil Engine

3 x 5 Geared to 2 h.p. Oil Engine. Code Word, YUEMZ.

4 x 5 Geared to 2 h.p. Oil Engine. Code Word, YUERF.

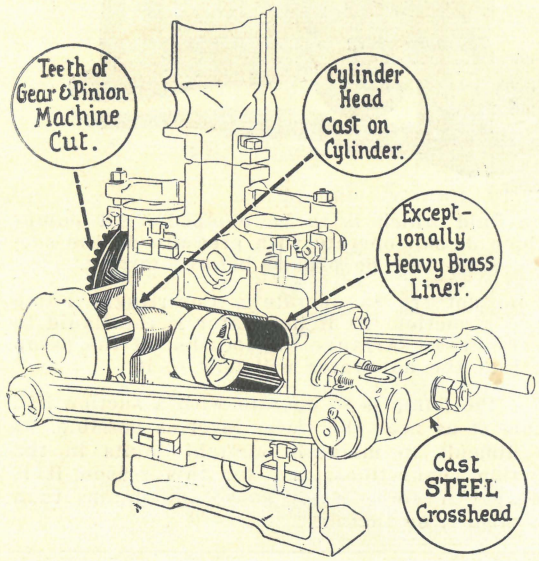
5 x 5 Geared to 2 h.p. Oil Engine. Code Word, YUETH.

5 x 5 Geared to 4 h.p. Oil Engine. Code Word, YUEWK.

Here are Four Reasons why "MACSON" PUMPS are Noted for their Long Service

1. Both gear and pinion teeth are machine cut, thus ensuring quiet operation and long life.

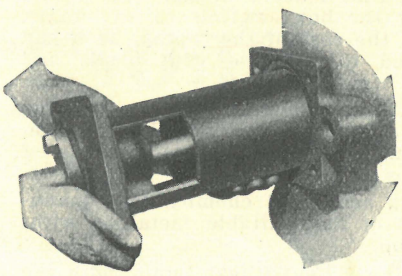
2. The cylinder head and cylinder casing are cast in one, giving a remarkably rigid construction, and removing all possibility of leaking or blowing out of packing at this point.



3. The "Macson" cylinder has a heavy brass liner which is considerably thicker than that of any pump of a similar type. This means much to those who are in the country, as replacing liners is a costly and difficult job, and may even mean sending the pump to the city for repairs. The heavy "Macson" liner saves your time and money.

4. Crosshead, being made from steel, will withstand heavy knocks or strains that would break the usual cast-iron crossheads.

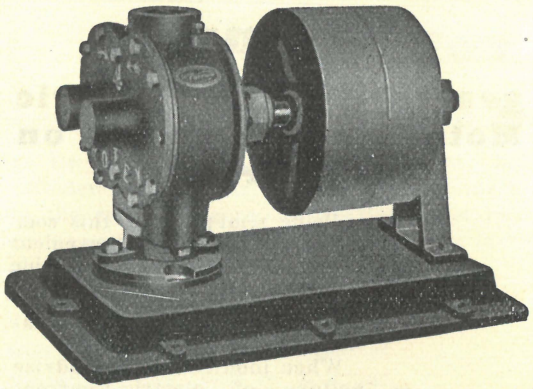
The Patented "Macson" Liner



As shown on left. The Renewable Liner, with Piston, Piston Rod and Cylinder Head have been withdrawn by HAND, a feature which is practically impossible with other makes of similar pumps.

Note the thickness of Liner. We emphasise that it is absolutely the best value obtainable in this type of pump.

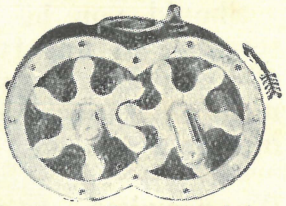
H 3— "Rotex" Lift and Force Pump



The "Rotex" is a power Rotary Force Pump, on iron frame; is designed for the use of oil refiners, distillers, creameries, breweries, wine producers, varnish makers, meat packers, etc.—in fact, wherever grit free liquid must be rapidly elevated by power. It will draw water against a suction lift of 25 feet, and force it against a head of approximately 60 feet. We also make these pumps in gunmetal or brass, for pumping salt water, etc. In conjunction with a tank, can be used on a motor lorry for fire-fighting.

Specially recommended as a low-priced pressure pump for use on spear points where grit or sand is not present in the water.

"Rotex" Pumps geared to Electric Motors can also be supplied.



The above illustration shows the general interior construction of Rotary Force Pumps although differing slightly in detail from "ROTEX" Pumps now being built.

May be supplied without base and pulleys.

We have sold hundreds of these pumps to Farmers, Factory Proprietors, etc., in many instances having been favoured with repeat orders.

Used extensively for pumping oils, heavy liquids, and semi-liquids.

A 3 in. diameter pulley is required on engine running at about 500 revolutions per minute to operate the Nos. 1 and 3 at correct speeds. For engines of higher speed we will fit 10 in. diameter pulleys to pump for 10/- extra.

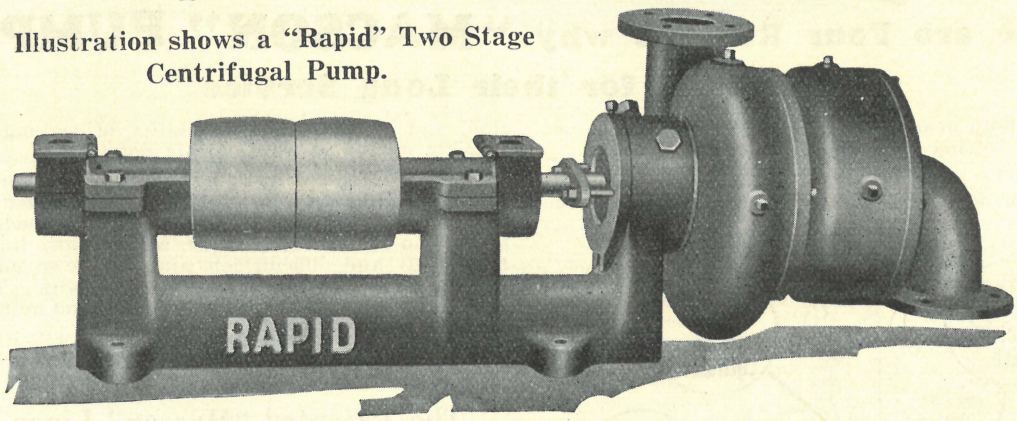
Can be driven by 1 to 2 h.p. Engine.

No.	Suction Pipes.	Discharge Pipes.	Size Pulleys.	Discharge at 150 rev. per min. gallons.	Price.	Code Words.
1	1¼	1¼	8 x 2½	20	£6 10 0	YOJIR
3	1½	1½	8 x 2½	30	8 10 0	YOJOS
4	2	2	12 x 3½	50	13 0 0	YOJPA
6	2½	2½	24 x 4	70	26 0 0	YOJSO

Sales Tax, where applicable, must be added to all prices on this page.

H 4—"Rapid" Centrifugal Pumps

Illustration shows a "Rapid" Two Stage Centrifugal Pump.



A most essential feature of our Centrifugal Pumps is that the bowl swivels to any angle, which reduces the cost of the piping, as it can be so arranged to dispense with bends and springs.

Oiling is facilitated by the gland nut oil hole always being on top, no matter what position the bowl is in. This is a special feature of "Rapid" Pumps.

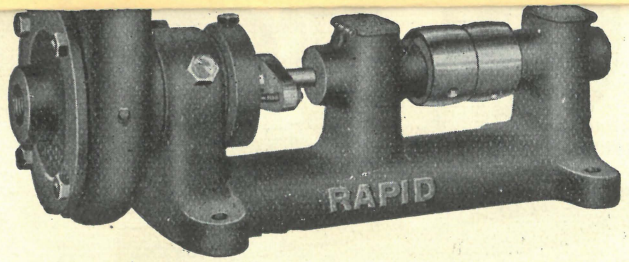
For pumping acids and chemicals we manufacture pumps of any suitable metal to withstand the action.

Before starting a Centrifugal Pump, both the pump and the suction pipe must be filled with the fluid which is to be pumped. All pumps which do not operate with pressure on the suction side must be primed before starting.

Do not try to operate a Centrifugal Pump with a suction lift if hot water is the liquid to be pumped. Arrange the location of the pump so that the hot water will flow to it.

If the pump is to operate with a suction lift, place it as near the water level as possible. It is difficult to maintain airtight joints in the suction connections, and for this reason it is cheaper to force water above the pumps than to raise it by suction.

Centrifugal Pumps are the Greatest Capacity Pumps Known.



All-Brass Pumps also in Stock.

Size of Suction and Discharge.	Pulleys. Diam.	Face.	Prices. 50 feet Head Single Stage.	Code Words	Prices. 100 feet Head Two Stage.	Code Words.
¾	2½	—	£8 15 0	YUHAS	—	—
1	3	2¼	4 10 0	YOMAS	£7 0 0	YOMZY
1¼	4	3	6 10 0	YOMET	11 0 0	YONAT
1½	4	3	7 0 0	YOMIV	13 0 0	YONEV
2	4	3	8 10 0	YOMSA	17 10 0	YONOY
2½	4	3	10 10 0	YONTA	—	—
3	5	5	15 0 0	YOMUX	21 0 0	YONUZ
4	6	5	17 10 0	YOMWO	26 0 0	YONVE

Sales Tax, where applicable, must be added to all prices on this page.

7

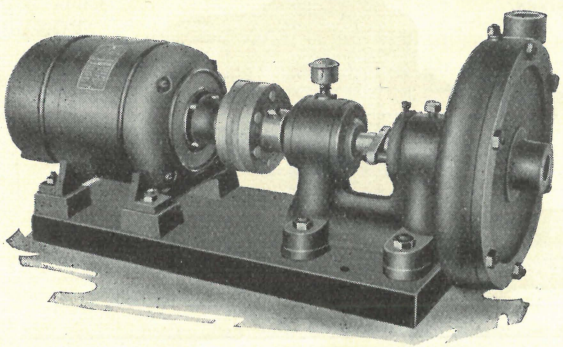
PARTICULARS OF LARGER PUMPS ON APPLICATION.

When ascertaining the total head that a pump has to deliver against, it must be borne in mind that the length of the pipes, bends or other irregularities add to the head through friction. See table on page 2.

Capacity Tables for "NEW RAPID" Centrifugal Pumps

Head in Feet	1″ G.P.M.	1″ R.P.M.	1″ B.H.P.	1¼″ G.P.M.	1¼″ R.P.M.	1¼″ B.H.P.	1½″ G.P.M.	1½″ R.P.M.	1½″ B.H.P.	2″ G.P.M.	2″ R.P.M.	2″ B.H.P.	3″ G.P.M.	3″ R.P.M.	3″ B.H.P.	4″ G.P.M.	4″ R.P.M.	4″ B.H.P.
5	22	1070	.2	32	700	.12	57⅓	700	.2	95	990	.9	160	1000	1.30	275	900	1.7
10	22	1270	.3	32	1040	.18	57½	1040	.32	95	1100	1.0	160	1110	1.56	275	1010	2.1
15	22	1460	.38	32	1320	.28	57½	1320	.5	95	1230	1.15	160	1230	1.95	275	1110	2.5
20	22	1640	.48	32	1520	.37	57½	1520	.65	95	1355	1.34	160	1345	2.37	265	1210	2.9
25	22	1820	.58	32	1690	.45	57½	1690	.8	95	1470	1.53	160	1460	2.81	265	1300	3.5
30	22	1980	.66	32	1840	.55	57½	1840	.95	95	1580	1.73	160	1570	3.26	265	1390	4.0
35	22	2120	.75	32	1980	.65	57½	1980	1.12	95	1680	1.95	160	1670	3.68	265	1480	4.6
40	22	2260	.86	32	2100	.73	57½	2100	1.3	95	1775	2.18	160	1760	4.06	265	1555	5.2
45	22	2390	.98	32	2220	.82	57½	2220	1.45	95	1875	2.46	160	1840	4.46	265	1625	5.9
50	22	2500	1.1	32	2320	.95	57½	2320	1.65	95	1975	2.75	160	1920	4.86	265	1690	6.5

Above figures are verified by Actual Laboratory Tests.



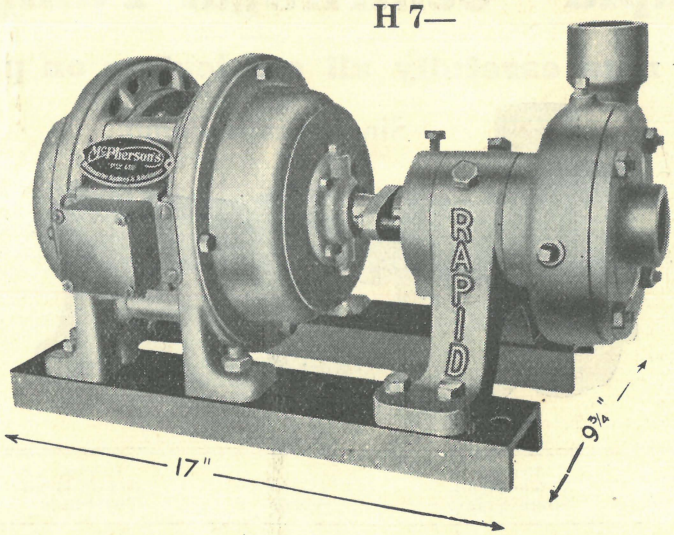
¾ in. Centrifugal Pump with ¼ H.P. Electric Motor

This unit is designed specially for use where only a small volume is required and the current available is 240 volts A.C. Suction and Delivery ¾-inch. Capacity approx. 300-400 gallons per hour. We can supply a suitable pump for direct coupling to your single or three phase A.C. or D.C. Electric Motor and will be pleased to submit quotation.

"Rapid" Motor Driven Centrifugal Pumps

H 7—

Larger or Smaller Units also Available.



It is absolutely necessary to advise the vertical height from highest and lowest water levels to proposed pump site and other particulars as mentioned on page 2.

Each unit guaranteed to give satisfactory service.

Please advise voltages of current available.

The most convenient and economical type of small pumping units at present offering, occupying very little space, and with as great capacities as units of twice the dimensions. Used extensively for **emptying septic tank effluent chambers, cellar draining, all circulating purposes, overhead tank** pumping, etc. Specially designed for the building trades, etc. The Rapid Centrifugal Pump, as illustrated, is fitted to extended Pulley Spindle of a 415 volt, 3-phase, 50 cycles A.C. Electric Motor and the whole arranged on a very heavy steel plate base no centre bearing or coupling being required. The **stainless steel spindle** is very large for the size of each pump and is supported by a long bearing in the body of the pump, and the motor is fitted with Radial Thrust Ball Bearings. Should you desire to drive some other machine, it is a simple matter to disconnect the pump and fit a pulley to the motor spindle. The elimination of the centre bearing is an exclusive feature which reduces the friction and consequently oil consumption to a minimum, and makes the unit one giving the greatest efficiency with the least possible attention. Also very little oil will find its way around the floor at the base of the unit, which is a source of annoyance with other types.

Although the pump bowl may be swivelled in any direction, the gland always remains horizontal, and attention is drawn to the guard, which prevents water being sprayed on to the stator coils.

The Steel Plate Base, which is now supplied, is exceptionally strong, and attention is drawn to the small floor space occupied.

The motor is a high-grade Australian production as recommended by the leading electrical engineers throughout the Commonwealth.

Suction and Delivery.	H.P.	Voltage.	Approx. galls. per hour.	Max. head.	Dia. Pump Spindle.	Code Word.
¾"	¼	240	300-400	24 ft.	—	YOYZM
1"	½	415	500-700	45-50 ft.	⅝"	YOYOJ
1¼"	1	415	1,200	,,	⅞"	YOYNB

The approximate length of the 1¼ in. is 19 in. and the 1 in. 16½ in., and both are 11 in. wide by 10¼ in. high.

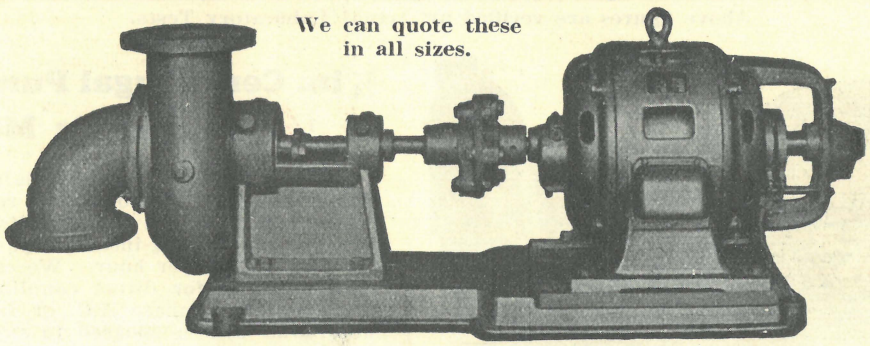
The capacity increases considerably as the head is decreased.

Single Stage Centrifugal Pump Direct Coupled to Electric Motor

H 8—

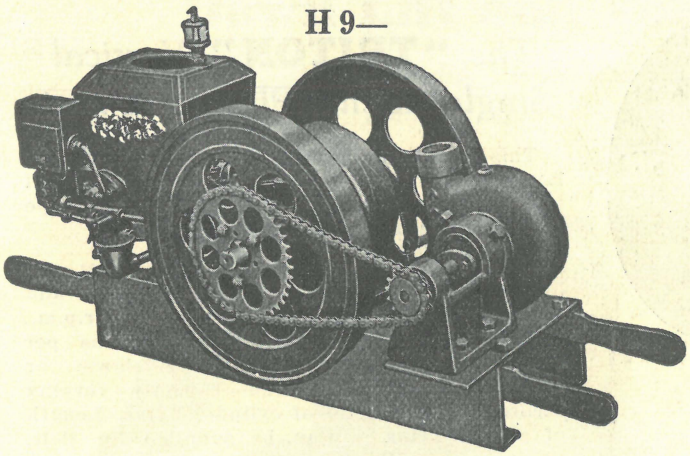
We can quote these in all sizes.

Code Word, "YONYO"



Centrifugal Pump Direct Coupled to Petrol or Kerosene Engine

H 9—



An excellent outfit for mounting on truck with tank and used to cart water to thirsty stock.

Illustrated is a 1½ inch Centrifugal Single-Stage Pump, direct coupled (chain drive), to 2 h.p. Petrol or Kerosene Engine.

Capacity.—3,300 gallons per hour against a head of 50 feet.

The outfit is portable, and can be carried from place to place, if desired.

We can quote for any size Centrifugal Pump arranged as above.

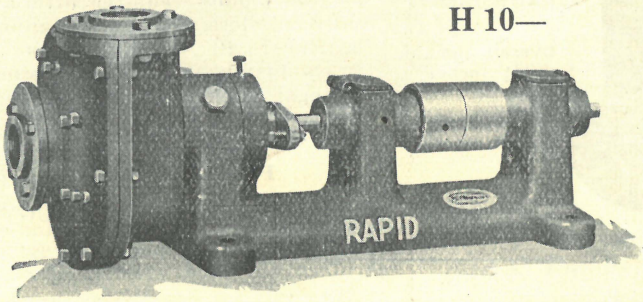
This Plant can also be supplied on Wheels, if desired, at a small additional cost.

	Price	Code Words
1 in., 50ft. head	£52 10 0	YUDPA
1¼ in., 50ft. head	55 0 0	YUDSO
1½ in., 50ft. head	57 10 0	YUDUT
2 in., 40ft. head	60 0 0	YUDVY

New Centrifugal Gravel and Sand Pump

H 10—

Code Words:
2 in., YUHIV
3 in., YUHSA
4 in., YUHTE
6 in., YUHWO



2 in. Gravel and Sand Pump.

These pumps have substantial cast iron beds, with long ring oiling bearings, fast and loose pulleys, (excepting 8 in. size) thrust collar, from 4 in. upwards patent ball-bearing thrust is fitted, swivelling bowl and connections for flanged piping. A renewable liner and door piece are fitted inside, and bowl faceplate is easily detachable, so that liner may be easily renewed.

Ported type Impellor is used and the larger sizes can have shoes fitted if required. Gland is tapped for connecting water pressure to lantern bush, so as to keep gland water-sealed and free of all sand, etc.

Diameter of Pump Discharge. in.	Capacity per Hour. Water. Gallons.	Capacity per Hour. Solids. Ratio 1 to 3½ cu. yards.	Diameter of Solids Pump will pass. in.	B.H.P. per 5 feet of Head.	Pulleys. Fast and Loose. Diameter Face.	Revolutions per Minute for Heads (including friction). 10 ft.	15 ft.	20 ft.	25 ft.	30 ft.
2	5400	2	1½	0.5	5 x 5	1180	1240	1300	1350	1550
3	9000	5	2	1.0	6 x 5	800	930	1050	1150	1240
4	15000	9	3	2.0	8 x 6	720	800	850	900	950
6	36000	20	4	4.0	10 x 8	650	775	875	950	1025
8	78000	35	6	7.0	14 x 12	385	426	525	600	625

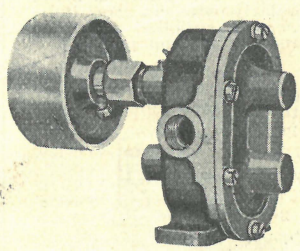
Prices:

2 in.	3 in.	4 in.
£22/15/–	£40	£50

6 in.
£130

H 11—

"Premier" Gear Pumps



Specially Lightened Pulley.

Large numbers of these pumps are in use on gasolene engines for circulating water and oil, pumping skim milk, also for bilge and general yacht pumping, tank supply, oil-burning apparatus and most industrial and general uses.

With the exception of the pulley, these pumps are made from special gunmetal. Specially cut gear wheels. Fitted with long stuffing box, which gives good bearing and prevents leakage. The pulley is 3½ in. diameter for 1½ in. belt.

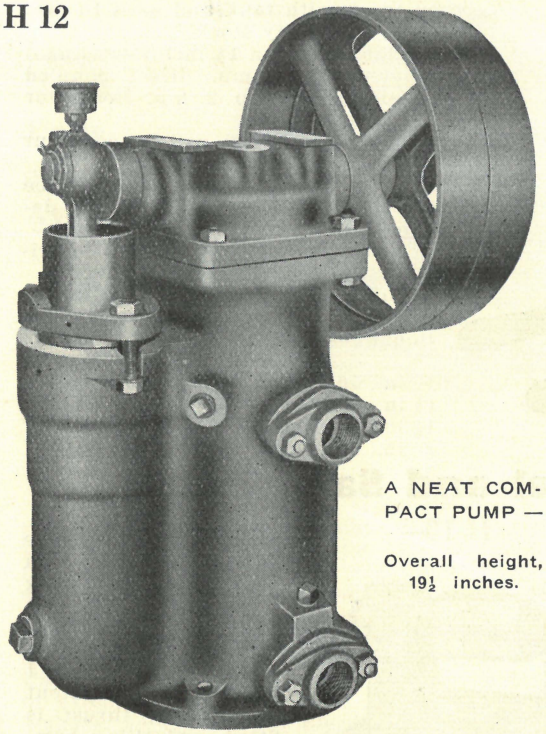
Size.	Revs. p.m.	Approx. Gals. per Hour.	Price.	Code Words.
⅜ in.	250	60	50/–	YUAHS
½ in.	400	200	57/6	YOROC
¾ in.	400	250	65/–	YOZOK

Exceptionally heavy spindle is fitted. Can also supply all iron pumps. Also with bottom spindle, double top or double bottom spindles.

Sales Tax, where applicable, must be added to all prices on this page.

AN ENTIRELY NEW PUMP

H 12



A NEAT COMPACT PUMP — Overall height, 19½ inches.

The "TRITON" Vertical Single-Acting Plunger Pump

This pump has been specially built for the large variety of services where only a small unit is needed, and is absolutely the best type of small pressure pump procurable.

Fitted with 10in. dia. x 1½in. face fast and loose pulleys and arranged for 1in. suction and delivery pipes. Normal speed approx. 300 r.p.m., and at this speed capacity is 6 gallons per minute. Pump can be operated slower or slightly faster if required—capacity varying accordingly. Diameter of cylinder 2⅜ins. Length of stroke 1½ins. Can be supplied for Belt, Chain or Gear Drive.

All parts easily accessible without disconnecting piping; requires little attention, practically noiseless. Renewable gunmetal ring-oiling bearings; all wearing parts easily renewed. Brass Piston Valve seats, stems, plates and springs; thick rubber valves; no leather cups.

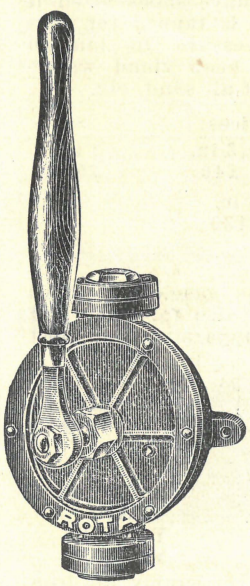
Normal power required to drive, up to ½ H.P.

PRICE, as illustrated, £9/10/-.

Code Word, "YUGYX."

H 13 **"Rota"**

Semi-Rotary Pumps



All inner working parts of brass. Practically all sizes are supplied with lugs parallel to back of pump for bolting to wall or post, etc. All Brass pumps for salt water, etc., also stocked. Constructed with a double-wing oscillating piston, with a brass valve set on each side of the cylinders. It is especially adapted for pumping oils, petrol, etc.

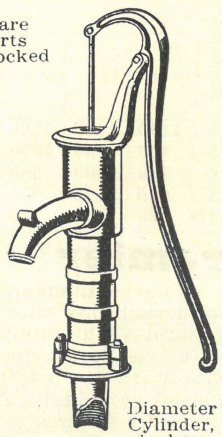
Size	Pipe	Cap. per Min. Gall.	Prices	Code Words
No. 0	½	4	25/6	YOKTO
No. 1	¾	6	27/6	YOKUV
No. 2	1	8½	32/6	YOKWY
No. 3	1¼	11	40/-	YOLAR
No. 4	1¼	14	50/-	YOLIT
No. 5	1½	20	57/6	YOLOV
No. 6	1½	24	67/6	YOLRA
No. 7	2	30½	97/6	YOLSE

H 14 **"Vulcan"**

House Lift Pump

DOUGLAS PATTERN.

Spare Parts Stocked



For Suction Lift, 25 Feet. This pump is neat in design and light in weight, but strong and serviceable. It is made with revolving cylinder and closed top. Plunger fitted with leather pump cup. No. 6 size can also be supplied with plunger rod for operating cylinder pumps as on page 18 down in your well. The spout can be turned in any desired direction. The bearer top is also adjustable, and the lever can be operated from any point. The suction valve is leather. This pump is fitted regularly with an iron hub-base and supplied with nut threaded for iron pipe.

No.	Diameter Cylinder, inches.	Suction fitted for Pipe ins.	Price.	Code Word.
2	2⅛	1¼	~~30/-~~ 25/-	YOSEB
3	2¾	1¼	~~35/-~~ 30/-	YOSIC
4	3	1½	~~40/-~~ 35/-	YOSOD
5	3½	1½	~~47/6~~ 40/-	YOSUF
6	3½	2	~~57/6~~ 50/6	YOYEG

Genuine "Douglas" also stocked. Prices on application

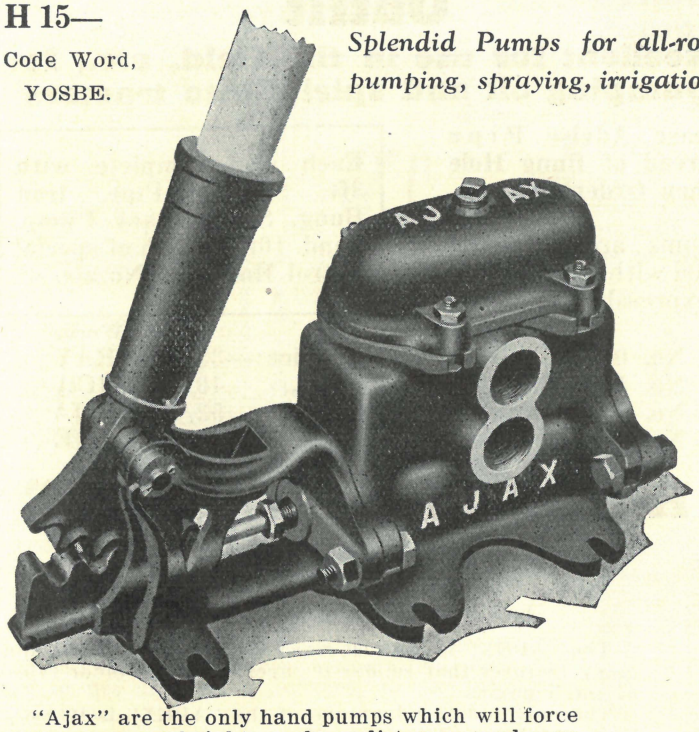
Sales Tax, where applicable, must be added to all prices on this page.

"Ajax" and "Acme" Double Acting Low Down Lift and Force Pumps

H 15—

Code Word, YOSBE.

Splendid Pumps for all-round use on the land—general pumping, spraying, irrigation, filling tanks, fire fighting etc.



The long handle and cog gear give great leverage and reduce power required to operate by one-third. Motion of handle is a natural stroke making pumping more pleasant. After once pumping these pumps are primed as the cylinder is below the suction inlet and, therefore, the water cannot run back down the suction pipe.

Brass Valve Seats are fitted, which are a distinct advantage over other pumps which have a common iron seat, and cannot pump the same quantity of water. The Cog Gear Head may be used on either end.

"AJAX" has 3 x 4½ inch cylinder and is designed for 1¼ inch pipe connections. Capacity, 500 gallons per hour.

Price: ~~£4/10/-~~

£3-16-0

"Ajax" are the only hand pumps which will force water to great heights or long distances, and may be used with ¾ inch delivery hose for watering gardens, lawns, etc.

"AJAX" Pumps are ideal for fire fighting

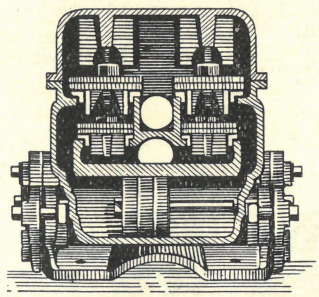
See page 16

11

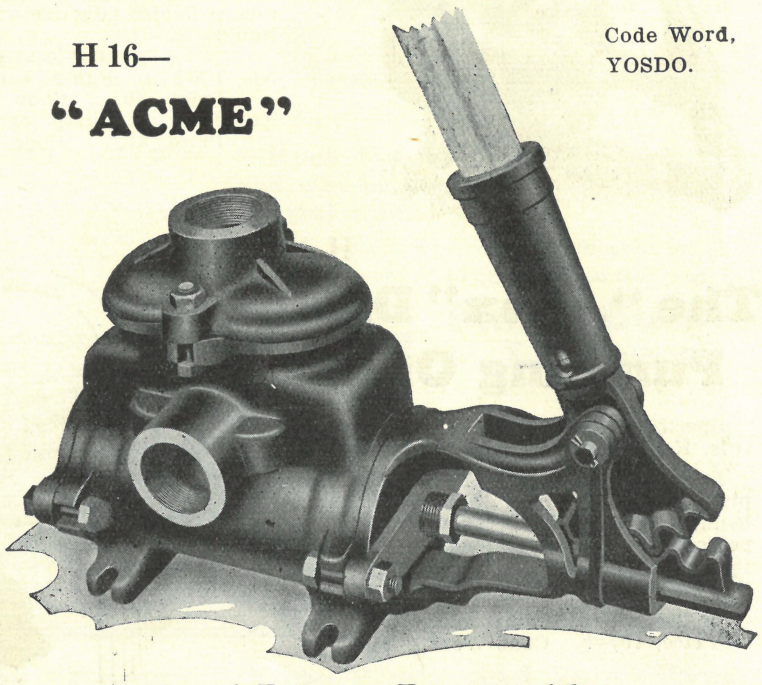
H 16—

"ACME"

Code Word, YOSDO.



Section showing Valve Construction of both Pumps.



"ACME" will give an output of approximately 1,700 gallons per hour, and is fitted for 2 inch pipe connections. Cylinder is 5 x 5 inches.

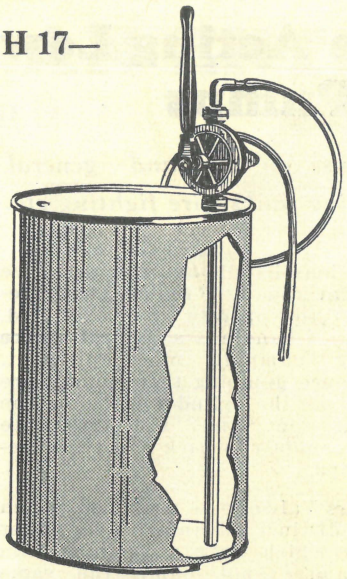
Price: ~~£4/15/-~~

£4-0-0

The Best Type of Hand Pumps Procurable

Sales Tax, where applicable, must be added to all prices on this page.

H 17—



"Macson" 40-Gallon Drum Oil and Petrol Pumping Outfit

Excellent for use in the field, etc., for pumping oil and spirits into tractors

Please Advise Pipe Thread of Bung Hole When Ordering

Drums are not supplied with outfit unless expressly ordered.

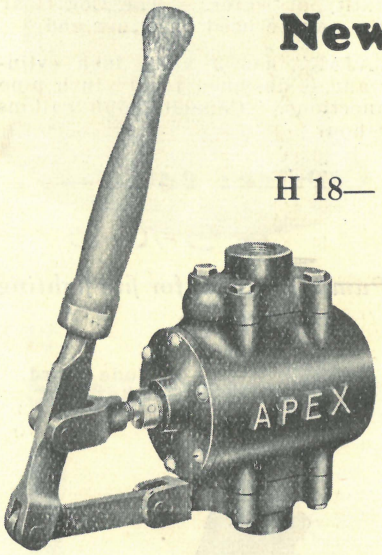
Each size complete with 3ft. Suction Pipe, Iron Bung, Semi-Rotary Pump, Bend, 10ft. length of special Petrol Hose and Nozzle.

		Code Words
No. 0—½ in. Fittings.	Price:—	35/- YORAY
No. 1—¾ in. „	„	40/- YORCO
No. 2—1 in. „	„	52/6 YUBMA
No. 3—1¼ in. „	„	67/6 YUBNE

New High Capacity "APEX" Pump

(Patent applied for)

H 18—



The "APEX" is the last word in Hand Pumps, having many features that render it superior to the older types of small pumps.

The outstanding advantage of the "APEX" is its very high capacity and its ease of operation.

Having no rubber or leather fittings inside to wear or perish, the "Apex" will easily outlast ordinary pumps.

Although designed primarily for pumping petrol and oils, it is also effective under certain conditions for other liquids.

Available at present in two sizes:

No. 1—½ in. Pump, capacity 1 gal. every 17 strokes. Price, 30/-. Code Word, "YUIFS."

No. 2—¾ in. Pump, capacity 1 gal. every 13 strokes. Price, 35/—. Code Word, "YUIGT."

H 19—

The "Apex" Drum Pumping Outfit

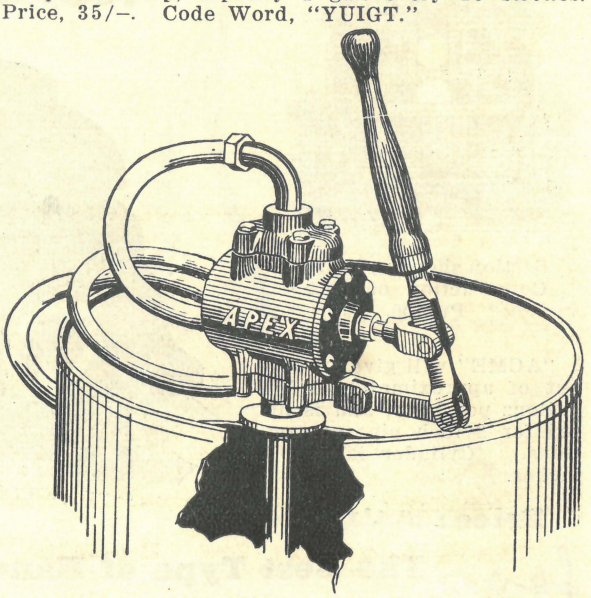
Specially constructed for pumping Petrol, Oils, Kerosene, etc. Drums not supplied.

Each size complete with 3 ft. iron suction pipe, fireproof bung attachment, pump, bend, hose connection, 10 ft. length special petrol hose, nozzle and clips.

No. 1—"Apex" Pump and ½ in. fittings. Price, 35/—. Code Word, "YUIRG."

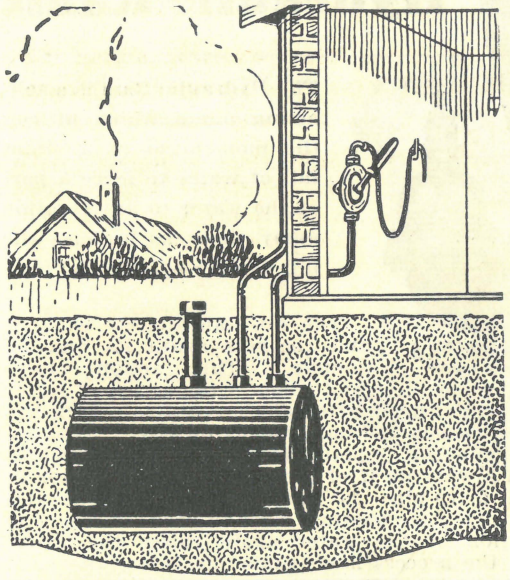
No. 2—"Apex" Pump and ¾ in. fittings. Price, 40/—. Code Word, "YUJAT."

Sales Tax, where applicable, must be added to all prices on this page.



H 20—

"Macson" Petrol Storage and Pumping System



The only safe way to store petrol.

With our system the spirit is kept cool underground, which minimises evaporation, and the risk of fire or theft is reduced to the absolute minimum.

The tank may be installed wherever convenient, and the pump 100 yards away if necessary.

A 10-gauge mild steel electrically-welded tank, leather-packed Lock cap, air vent, pump, 10 ft. length of special petrol hose, nozzle, and all required fittings are included in the price. The excavation, and a plumber to fit pipes, etc., is all that is necessary, and the installation is complete. This outfit enables you to buy petrol in bulk at a big saving.

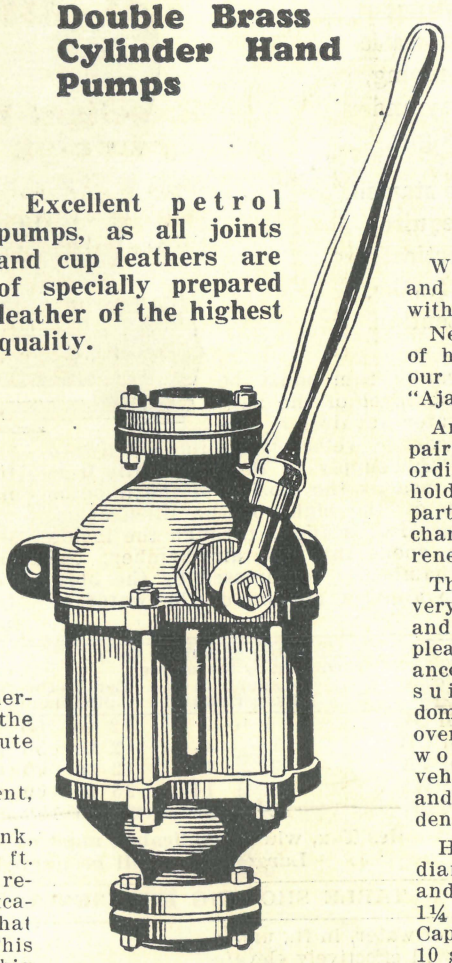
Capacity:	100 gals.	200 gals.	300 gals.
Price:	£15	£17/10/–	£20
Code Words:	"YOVDE"	"YOVED"	"YOVGO"

Complete installation instructions with each outfit.
Approved by Explosives Dept. and Fire Underwriters' Association.

H 21—

Double Brass Cylinder Hand Pumps

Excellent petrol pumps, as all joints and cup leathers are of specially prepared leather of the highest quality.



Will lift 25 feet and force 80 feet with valve.

Next best type of hand pump to our "Acme" and "Ajax."

Anyone can repair a pump with ordinary household tools, as all parts are interchangeable and renewable.

These pumps are very serviceable, and have a very pleasing appearance, are most suitable for domestic work or overhead tank work, washing vehicles and watering gardens, etc.

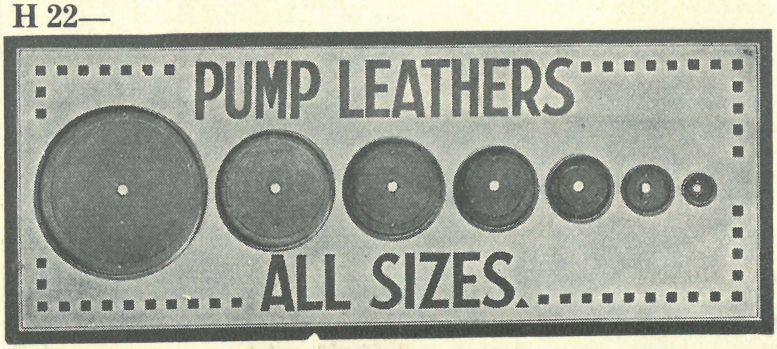
Has 2½ inch diam. cylinder and is fitted for 1¼ inch pipe. Capacity is about 10 gal. per min.

Price, 65/–. Code Word, "YOZKO."

Pump has brass cylinders and valves, and may be used for pumping salt and mineral waters.

Sales Tax, where applicable, must be added to all prices on this page.

H 22—



Pump Bucket Leathers

Code Word, "YUJYO"

1in.	1¼in.	1½in.	1¾in.
1/–	1/1	1/1	1/2
2in.	2¼in.	2½in.	2¾in.
1/3	1/6	1/9	1/9
3in.	3¼in.	3½in.	3¾in.
2/–	2/3	2/6	2/9
4in.	4¼in.	4½in.	4¾in.
3/–	3/3	3/3	3/6

5in.	5½in.	6in.
3/9	4/6	5/6 ea.

Clack Leathers for "Douglas" Type Pump and Footvalves

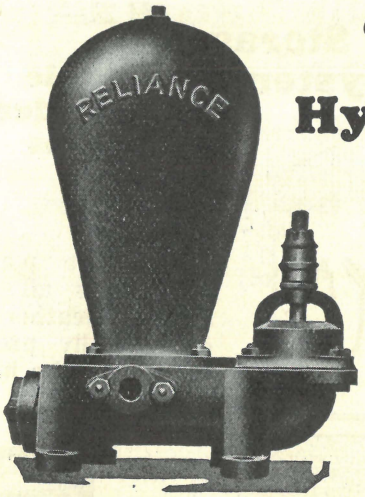
Code Word, "YUKAV"

2¾in.—6d. 3in.—7d. 3¼in.—9d. 3½in.— 10d. 3¾in.—11d. 4in.—1/1 4¼in.—1/2 ea.

H 23—

Continuous, Automatic Pumping, Day and Night.

Once started, require practically no further attention.



"Reliance" Hydraulic Rams

The Hydraulic Ram is a self-acting pump which utilises the momentum of a slight fall of water to force a part of the water to an elevation many times as high as the fall used to operate the ram.

The hydraulic ram must be set below the level of the supply. The water acquires a constantly increasing velocity in its downward course from the supply to the ram until it is suddenly stopped by the closing of the impetus valve, shown on the right of the illustration. Its only chance for escape is through the inside valve, which opens into the air-chamber; the air in this chamber is compressed by the blow sufficiently to allow a portion of the water to enter.

The air immediately expands and recovers again its original volume. This action closes the inside valve and compels the excess of water to escape through the discharge pipe, which has now become the only means of exit.

When the impetus valve rebounds, which it will always do if of proper weight, the water in the drive-pipe is again allowed to acquire velocity by wasting around the valve, the friction of the water again raises the valve, and the process is continued as before.

14

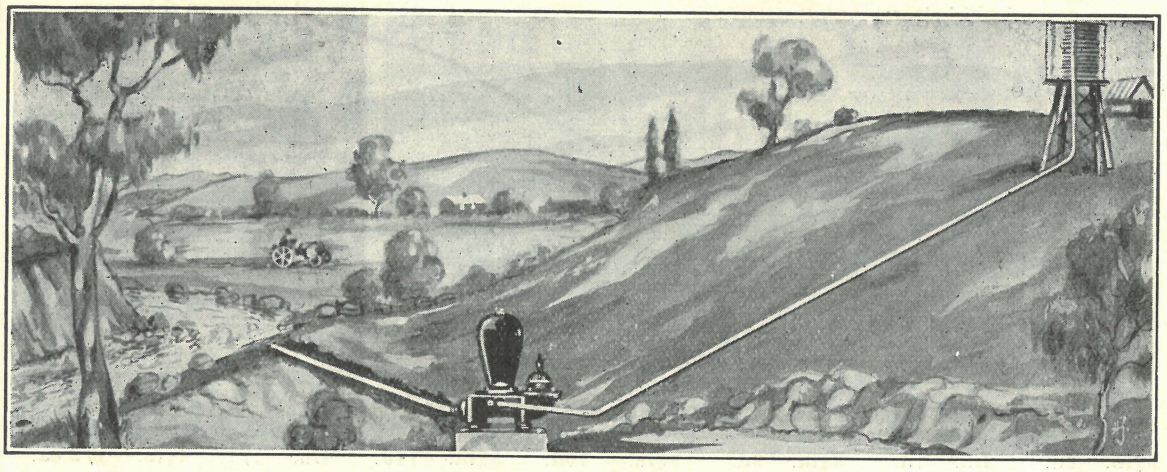
Ram No.	Words Code	Quantity of water furnished by the source of supply in gals. per min.	Length the drive pipe should be.	Diameter of Pipe. Drive.	Diameter of Pipe. Discharge.	Prices.
2	YOPOZ	½ to 2	12 to 50 feet	¾ inch	½ inch	£4 15 0
3	YOPUB	1½ ,, 4	12 to 50 feet	1 inch	½ inch	5 7 6
4	YOPVA	3 ,, 7	12 to 50 feet	1¼ inch	½ inch	6 2 6
5	YOPWE	6 ,, 14	25 to 100 feet	2 inch	¾ inch	7 0 0
6	YOPZO	12 ,, 25	25 to 100 feet	2½ inch	1 inch	10 15 0

4-10-0
5-0-0
5-10-0
6-15-0

Sales Tax, where applicable, must be added to all prices on this page.
Larger Sizes will be quoted on application.

TABLE SHOWING EFFICIENCY OF THE HYDRAULIC RAM.

Minimum fall of water, in ft., under which ram will effectively elevate water to height given below . . .	2	2	2	3	4	5	6	7	8	10	12
Height, in ft., the water may be elevated	4	6	8	15	24	35	48	63	80	100	120
Length of drive pipe, in ft.	12	12	12	15	20	30	40	50	60	75	95
Proportion of water elevated or discharged by the ram	2/7	1/5	1/7	2/17	1/10	1/12	1/14	2/31	1/17	1/18	1/20



"Atlas" Diaphragm Bilge Pumps

H 24—

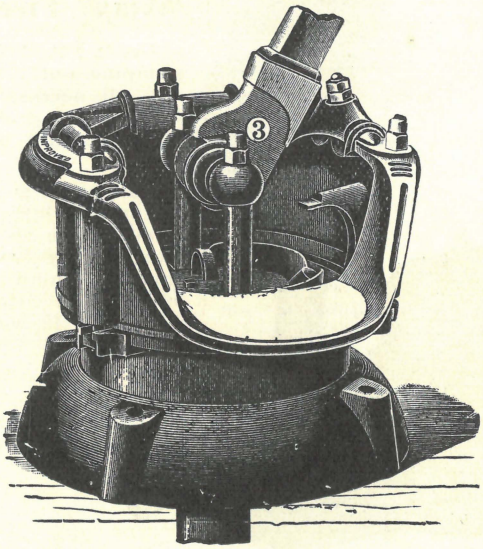
Will lift water vertically 25 ft.

For Ships, Barges, Scows and other vessels; also for filling tanks for Railroad and Street Sprinklers, or wherever a stationary pump of large capacity by hand power is required.

The efficiency and durability of a Diaphragm Pump depends entirely upon the perfection of the diaphragm.

Used extensively by contractors, tanners, etc., or wherever liquids containing debris, solids, etc., are to be pumped.

Large fullway valves allow passing of all matter. Operated by long handle.



No. 2 BILGE PUMP. BOTTOM INLET. FOR IRON PIPE.

Operated by one man.

Approx. capacity, 1800 gallons per hour.

Suitable for 2½ in. iron pipe.

Price, £9/10/–.

Code Word, "YOSZA"

No. 3 BILGE PUMP.

Operated by one man. Approx. Capacity, 3,500 gallons per hour.

Suitable for 3 in. iron pipe.

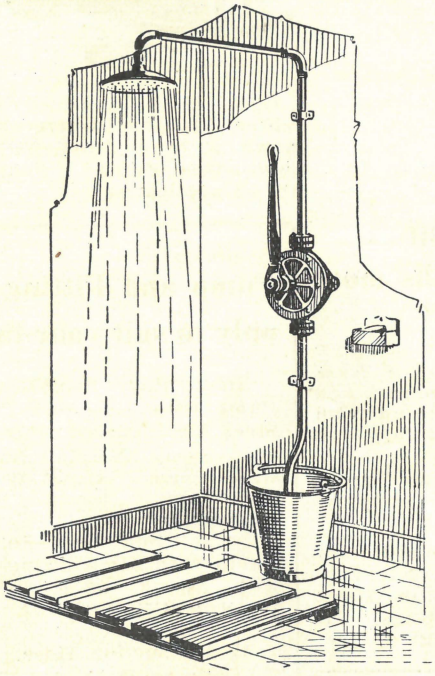
Price, £11/10/–.

Code Word, "YOTAB"

Extra Diaphragms: No. 2, No. 3, stocked.

H 25

"Macson" Bush Shower



This outfit is proving very popular in the country, where the supply of water is limited; also very popular in Shearing Sheds. A semi-rotary pump gives just the right flow, and does not cause undue waste of water. Very easily erected, and can be shifted to any desired spot with the least trouble.

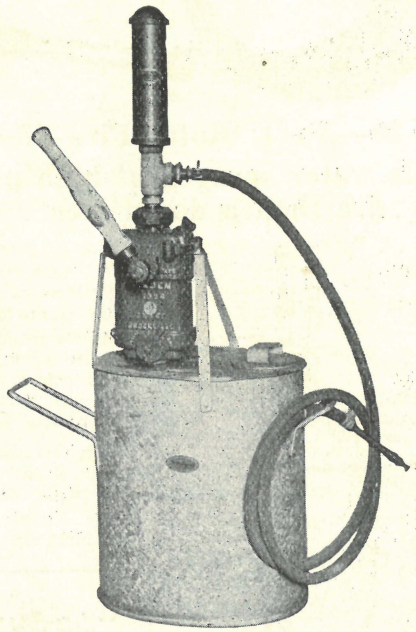
Price, with ½ in. fittings, 37/6. Code Word, "YOREZ."

With ¾ in. fittings, 42/6. Code Word, "YORIB."

Price does not include bucket.

H 26—

Fire Fighting, Jetting and Spraying Outfits



The "Tandem"

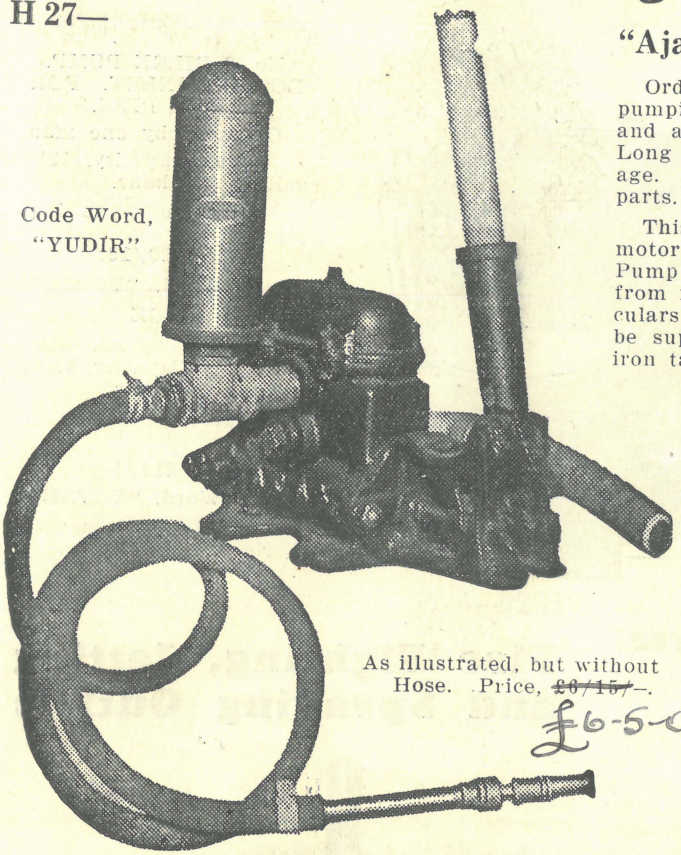
This Outfit now comprises a No. 2 Semi-Rotary Pump, 7 gallon oval-shaped water tank, air chamber and necessary fittings, including spray nozzle.

Prices on application.

Sales Tax, where applicable, must be added to all prices on this page.

Fire Fighting, Jetting and Spraying

H 27—



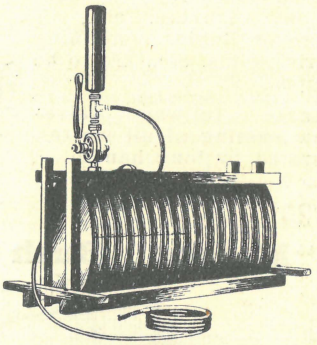
Code Word, "YUDIR"

As illustrated, but without Hose. Price, ~~£8/15/-~~. £6-5-0

"Ajax" Fire Fighting Outfit

Order this 3 in. x 4½ in. powerful "Ajax" pumping outfit with 4 in. steel air chamber and all necessary fittings (excepting hose). Long handle and cog gear give greatest leverage. Leather pump cups are only wearing parts.

This outfit is ideal for use on footboard of motor car, lorry or cart of any description. Pump and hose may be used for filling tank from nearby creek, river, etc. Fuller particulars of pump on page 12. The above can be supplied fitted to 120-gallon corrugated iron tank, in wooden frame.

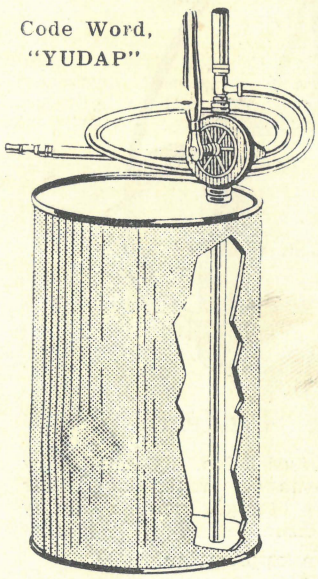


Here is a first-rate fire-fighter. In the illustration is shown a tank fitted with a Hand-power Pump. Particulars on application.

H 29—No. 1 "Rota" Fire Fighting Outfit

A little water sprayed at high pressure kills more fire than a dozen men with beaters

Code Word, "YUDAP"



The above is proved beyond question, year after year. And it takes very little water. This compact and easily portable outfit, made up from a petrol or oil drum, will turn two men into ten; this year it may save you a hundred times its cost—apart from its all-round utility for spraying, jetting and general use.

Price includes No. 1 Semi-Rotary Pump, Steel Air Chamber, 3 ft. Suction Pipe, Bung, 20 ft. ½-in. Hose, Spray Nozzle, and all fittings, but does NOT include tank. **56/6.**

"Ladywood" Knapsack Spray Pumps are used as fire-fighters with great success.

Pump and Fittings only to suit your tank

No. 2 "Rota" Semi-Rotary Pump with 3 ft. Gal. Pipe, Steel Air Chamber, Fittings and Spray Nozzle, **55/6;** Hose extra. Code Word, "YUDYV."

No. 3 "Rota" Semi-Rotary Pump with same fittings as with No. 2, **66/9.** Code Word, "YUEGS."

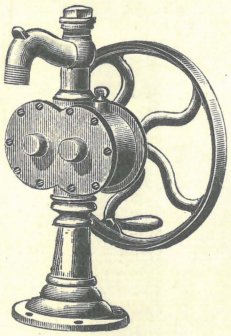
1¼ in. Suction Hose, 3/1 ft. Delivery Hose, ½in. 7½d. per ft., ¾in. 9d. per ft. If hose is required please advise length.

Steel Air Chamber, **12/6.**

120 GALLON CORRUGATED TANK FOR ANY ABOVE, **£7.**

Sales Tax, where applicable, must be added to all prices on this page.

H 30—"Trojan" Hand Rotary Force Pump



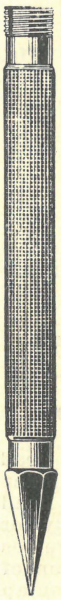
The "TROJAN" is a positive suction and force pump.

For pumping oil, fermented and acetous liquids this pump is very efficient; and for pumping hot or cold water it can be used in place of the ordinary piston pumps.

These pumps are fitted for iron pipe, but will be fitted for hose when so ordered.

No. 2 is fitted for 1¼ in. pipe and discharges at 50 revolutions per minute, 10 gallons. Price, £6/15/-. Code Word, "YORUD."

H 31—Spear Point for Driving Down Into Sand

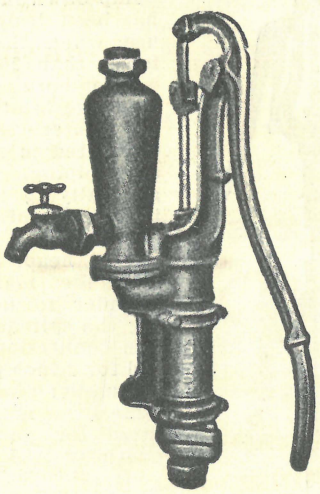


This Driving Point is made of galvanised wrought iron tube, and drilled. It is then covered with brass gauze, and jacketed with perforated brass. The octagonal point, which is of solid cast iron, is securely riveted to body, and is sufficiently wide in the shoulder to ensure ample clearance for pipe following.

Sizes:—

		Code Words
1¼ in.	17/6	YUJTA
1½ in.	21/-	YUJUZ
2 in.	28/-	YUJVE

H 32—No. 1736 House Pumps



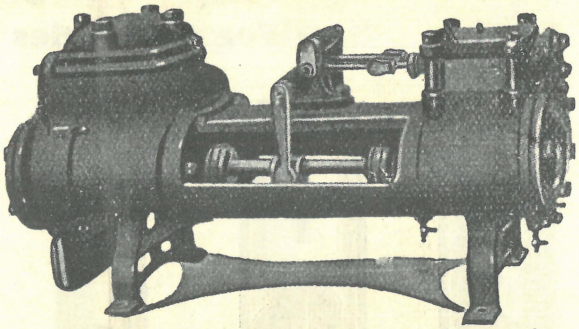
No. 1736

"Combination" House Force Pump, with brackets for securing to wall. Cylinder can be turned to discharge in any direction. Lift and force 50 to 75 feet.

No.	Dia. Cyl.	Capacity per Stroke.	Suction Stroke.	Pipe.	Price.
2	2½ in.	5 in.	.10	1¼ in.	£4/15/-
4	3 in.	6 in.	.18	1¼ in.	£5/10/-
6	3½ in.	6 in.	.24	1½ in.	£7/10/-

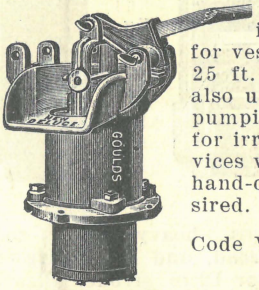
Code Words, No. 2—YOTOF; No. 4—YOTUG; No. 6—YOTVH.

H 33—Steam Boiler Feed Pumps



For marine service or other special requirements, pumps can be supplied with water ends made entirely of gun-metal if desired. Particulars on application. Code Word, "YOUMY."

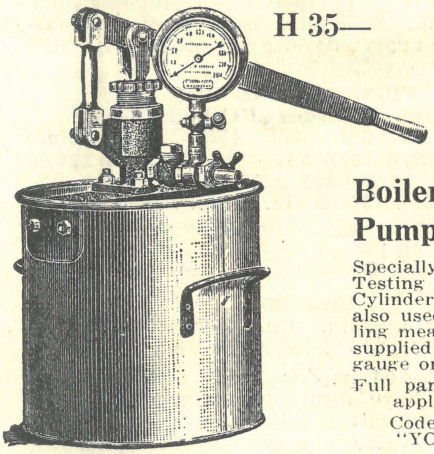
H 34—Deluge Suction Pumps



The "Deluge" is an improved Bilge Pump for vessels of not more than 25 ft. depth of hold. It is also used by contractors for pumping out excavations, for irrigation and other services where a large capacity, hand-operated pump is desired. Price, £11/17/6.

Code Word:—"YOSYG."

H 35—Boiler Test Pumps

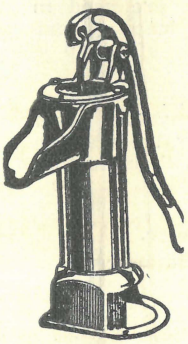


Specially made for Testing Boilers, Cylinders, etc., and also used for pickling meats. Can be supplied without gauge or container.

Full particulars on application.

Code Word, "YOYGE."

H 36—"Gem" Brass Barrel Pump



Will lift 25 feet.

Equipped with standard plunger and leathers.

Handle can be placed at three different positions.

To renew lower valve leather, remove lower nuts from side rods and lift off upper part of pump.

No. 31, cylinder 3½ in. diameter, 1/5 gallon capacity stroke; weight 18 lbs.; pipe sizes 1¼ in. Price:—37/6. Code Word, "YOJVY."

H 37—

All Brass Cylinder Pumps

For Capacities see page 3

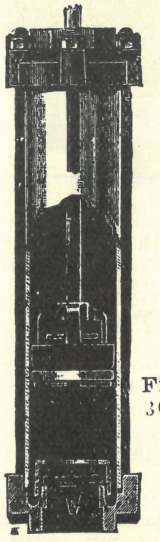


Fig. 304.

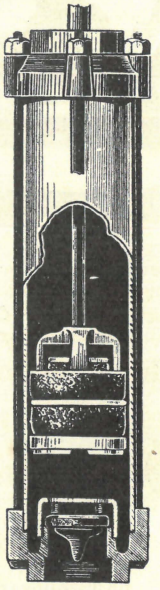


Fig. 305.

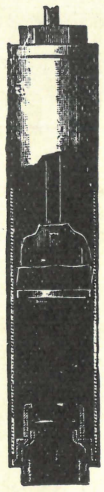


Fig. 310.

Fig. 311.

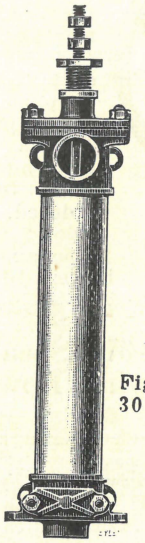


Fig. 301.

Fig. 317.

With improved valves, heavy brass rod screwed Whitworth thread, and hard drawn brass barrel. Supplied for 12 in. stroke. Please advise the size of pump rod you propose using. ⅜ in. or ½ in. gal. piping is generally satisfactory. Can supply any size, stroke or with Ball Valves.

FIGS. 304 AND 310.
Inside Diameter of Cylinder.

2in.	2½in.	3in.	3½in.	4in.	4½in.	5in.	6in.
42/–	47/6	52/6	73/6	84/–	136/6	178/6	220/6

FIGS. 305 AND 311.

2in.	2½in.	3in.	3½in.	4in.	4½in.	5in.	6in.
44/6	47/6	58/–	81/6	92/–	157/6	210/–	252/–

Two bolts on pumps up to 3 in., Figs. 304 and 305, and three bolts on larger sizes.

FIG. 301.

2in.	2½in.	3in.	3½in.	4in.	4½in.	5in.	6in.
71/-	73/6	89/6	136/6	157/6	178/6	262/6	336/-

These Fig. 301 improved side delivery windmill pumps have desirable features including accessibility of valves, bottom cover for inspection of lower valve, plunger may be withdrawn by removing top cover. Supplied with brass stuffing box.

Fig. 317, Draw Plunger type, are used in very deep bores, wells, etc., and made of galvanised wrought iron piping, inside of which is fitted a solid brass liner.

Each end has male thread, which is screwed to piping and when leathers or valves need renewing the plunger and lower valve may be withdrawn through all the piping without further dismantling pipe lines.

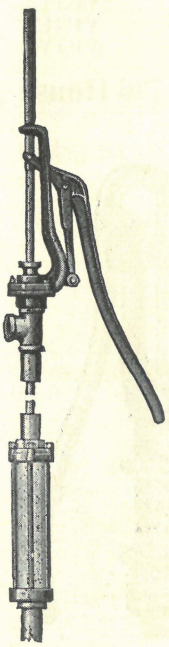
FIG. 317.
Inside Diameter of Cylinder.

1¾in.	2¼in.	2⅝in.	3¼in.	3¾in.
		Pipe Thread.		
2in.	2½in.	3in.	3½in.	4in.
71/–	89/6	105/–	126/–	157/6

Any of above can be supplied for different size piping.

H 38

"Climax" Pumper



A strongly constructed head for operating, by hand, cylinder pump down in well. This head has been designed specially for use when the water level is lower than 25 ft. from top of well or bore. A cylinder pump as above is fitted in or as near the water as possible, and connected to the head by suitable piping. Another pipe, generally ⅜ inch, galvanised, is fitted to piston rod in cylinder pump and also to the pump rod in head, and operates inside the main piping from cylinder to head, thus working the cylinder pump. The bottom connection on head is tapped for 2 inch piping, but larger or smaller piping may be used. Usually a nipple and tee are fitted for pumping water to overhead tanks, etc. We draw your attention to the extended pump rod which may be connected to windmill or pump jack, etc. May be used with delivery hose for spraying, etc. Can be adjusted for 5½ inch, 7 inch, or 9 inch strokes.

Price for Pumper only, 57/6.

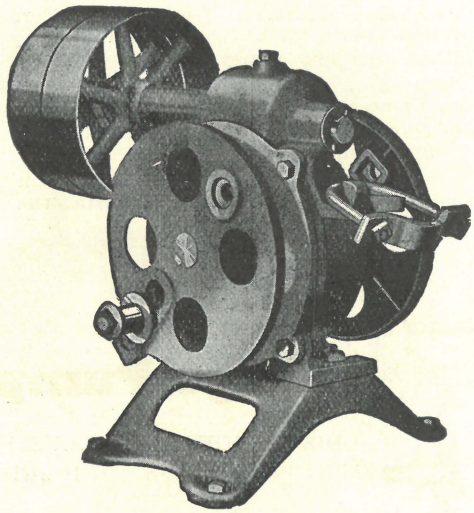
Code Word, "YUKCY."

See also H 14, No. 6.

H 39—

"MAX" Worm Gear Pump Jack

ALL GEARING COMPLETELY ENCASED AND PACKED IN GREASE.



Rust Proof. Rain Proof. Dust Proof. Accident Proof.

Operate pulleys at 330 r.p.m.

Shipping weight, 86 lbs.

Gear ratio, 11 to 1.

Stroke, 5, 6, 7½, 10 in.

Can be used with gas engine or electric motor. A larger pulley is used with motor drive, otherwise the jack is the same as for engine drive. No special attachments are needed.

Strong castings and cold rolled shafting used, making a very durable, easy-running pump jack.

Stroke can be regulated to fit almost any pump, and jack can be used on either vertical or horizontal pumps.

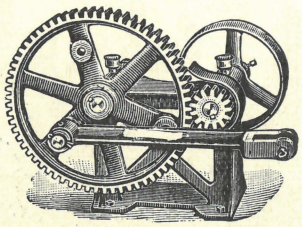
Price, £7/10/– each.

Code Word, "YUCRO."

H 40—

"Victor" Pump Jack

Code Word, "YOLYX."



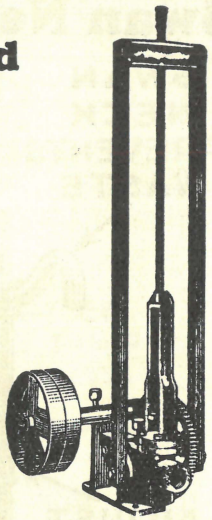
No. 1613.—This Jack is built specially for use with various types of pumps.

The Jack consists of a strong box frame carrying the gear and pinion shafts. The gears are machine cut from the solid. The bearings are provided with grease-cups for lubrication. The gear ratio is 5 to 1.

Furnished regularly with 8 in. by 2½ in. single tight pulley. Price, £4/7/6.

H 41— "REX"

Pumping Head



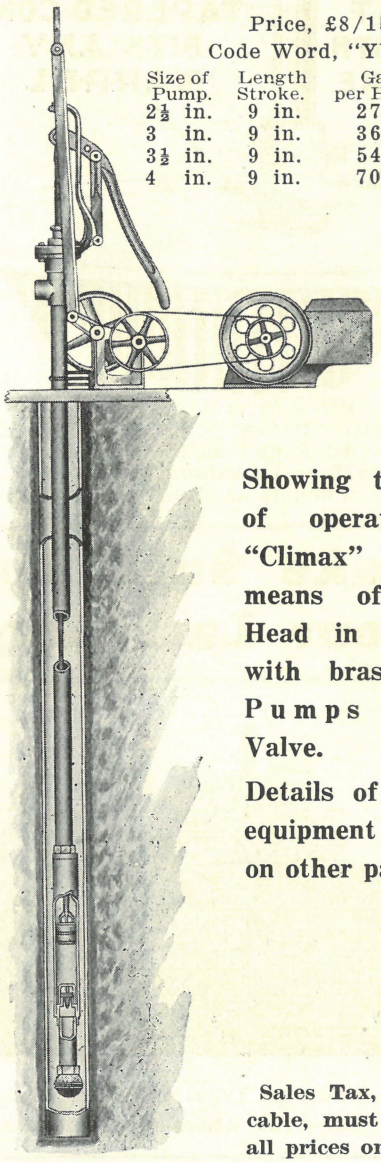
Large numbers are used for operating Cylinder Pumps down in wells, mining shafts, etc. Note that it is not necessary to purchase a separate Guide Rod and Stuffing Box, as is the case with all Pump Jacks.

Back geared 5 to 1. Length of strokes, 4½ in., 7 in. and 9 in. Fast and loose pulleys, 12 in. x 2 in., running at 150 r.p.m. Can also be connected to windmills. Made for 2 in. piping, and is generally bushed for smaller sizes.

Price, £8/15/–.

Code Word, "YUCTY."

Size of Pump.	Length Stroke.	Gals. per Hour.	Head.
2½ in.	9 in.	270	150 ft.
3 in.	9 in.	360	100 ft.
3½ in.	9 in.	540	75 ft.
4 in.	9 in.	700	50 ft.

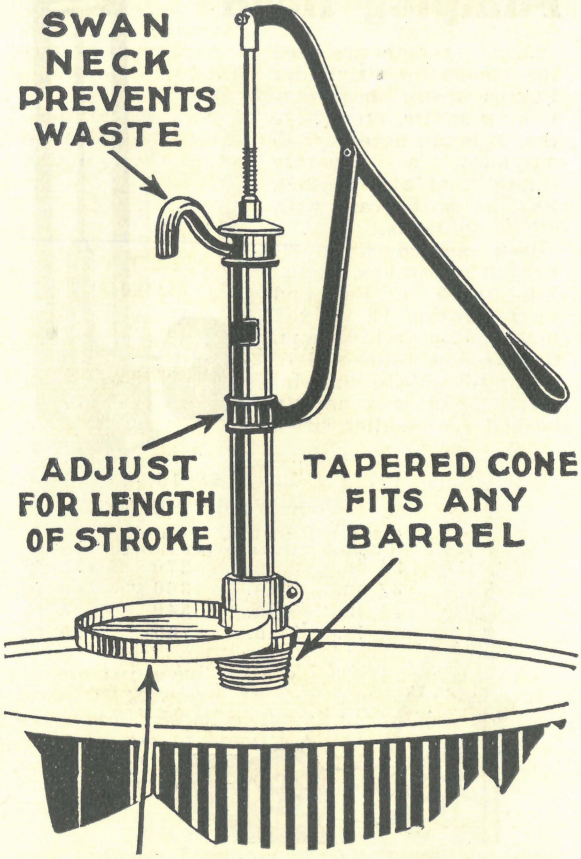


Showing the method of operating our "Climax" Pumper by means of Pumping Head in conjunction with brass Cylinder Pumps and Foot Valve.

Details of the above equipment are shown on other pages.

Sales Tax, where applicable, must be added to all prices on this page.

Swan Neck Oil Pump



SAVES TIME.—If you drain from Tap to Measure, the Drip-Pans must be emptied. If you drain from Tap to 4 gallon Tin and then to Measure there is double handling—and still the Drip-Pans must be emptied. Time continually lost! The "Swan Neck" saves all this! Not only once, but hundreds of times each year!

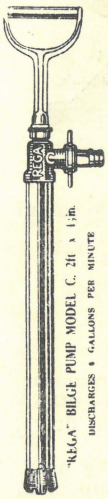
SAVES OIL.—You know that every time Oil is handled some of it is lost in the process. And, again, how often is the Oil in the Drip-Pans rendered useless? The "Swan Neck" saves all this! Not only once, but hundreds of times each year!

SAVES MONEY.—Time and Oil represent Money—Solid Cash—to you, and when you lose either you lose Money!

Anything you need, you are paying for — whether you have it or not. By continuing with the old, messy, wasteful tap-method, you are piling up losses.

Scrap the tap-method. Pump, don't pour, and you'll save far more. Instal the "Swan Neck" Pump System.

Price, ~~42/6.~~ 37/6



Bilge Pump

DISCHARGES 6 GALLONS PER MINUTE. BRASS THROUGHOUT.

A very useful article in the boat shed.

Strong and serviceable. Supplied, as illustrated, complete with union for 1in. hose.

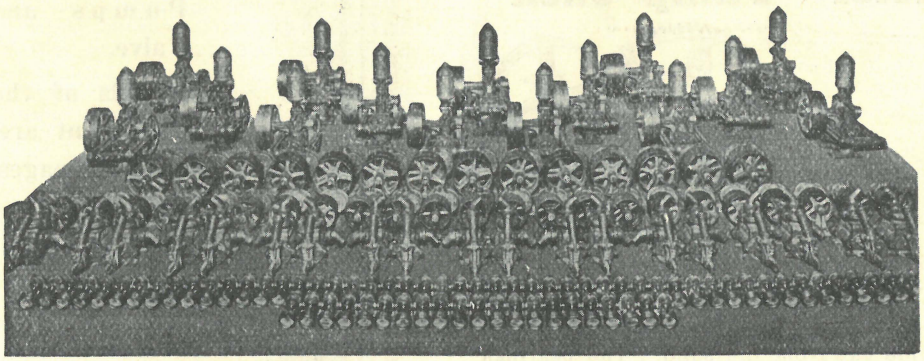
Solid drawn brass cylinder, 1¾in. x 16in. Highly polished and lacquered. Foot valve detachable with strainer.

Better than any old tin can for baling out water.

Price, 27/6.

Code Word, "YUCYT."

Make Sure Your First Cost is Your Last—Buy Reliable Pumps

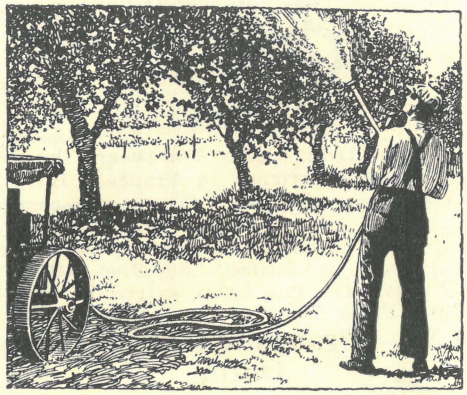


Various Types of Pumps at our Pump Works awaiting shipment.

Sales Tax, where applicable, must be added to all prices on this page.

H 46—

"GOODYEAR" Answers Spray Hose Problems



You will find the answer to all your spray hose problems in GOODYEAR Spray Hose. The reason for this is that the Makers have carefully studied the service conditions under which spray hose must work, and have manufactured its product to withstand such conditions.

That is why GOODYEAR Hose has a specially compounded tube to withstand the destructive action of spraying liquids. . . . That is why GOODYEAR Spray Hose is built with especially strong, high-grade fabric to withstand the high pressures of modern spraying machines. . . . That is why GOODYEAR Spray Hose has an elastic body and a tough, wear-resisting cover to minimise the effect of use on rough ground.

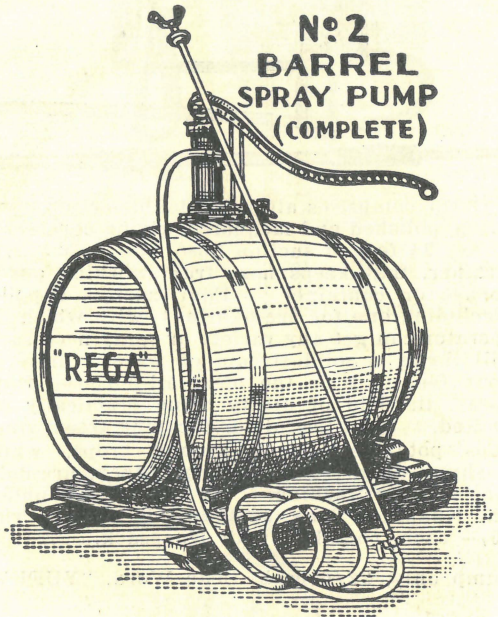
Another important feature:—If the hose is too heavy, it is hard to handle and is a strain on Pump Fittings. So GOODYEAR Spray Hose is light in weight, resulting in less wear of the hose and less effort for the operator.

GOODYEAR Spray Hose, for which we are Distributors, is made in two types:—GOODYEAR "HY-PRESSURE," to withstand working pressures up to 500 lb. per square inch; and GOODYEAR "WINGFOOT," to withstand pressures up to 250 lb. per square inch. Each type we can honestly recommend as the best in its respective class.

Prices are surprisingly low for such quality. Hose:—"HY-PRESSURE," ½ in., 1/7 per ft.; "WINGFOOT," ⅜ in., 11d. per ft.; ½ in., 1/2½ per ft. Samples sent on request.

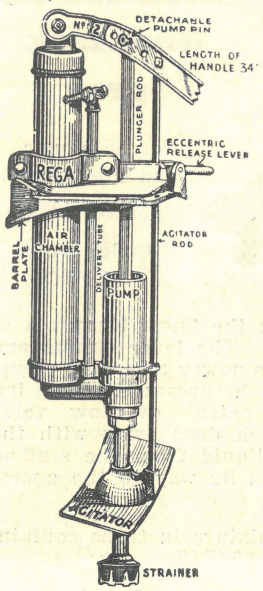
H 47—"Rega" Barrel Sprayer

The chief essentials in a Barrel Sprayer are a good pump, easy to get at, with a properly designed plunger. High compression valves capable of withstanding the hard work valves have to do. A strong Air Chamber, with ample space and elasticity to hold sufficient liquid to keep two lines of hose going, without exertion; an Agitator, which can be used independent of the pump for thoroughly mixing the solution before it is sprayed.



STANDARD EQUIPMENT.

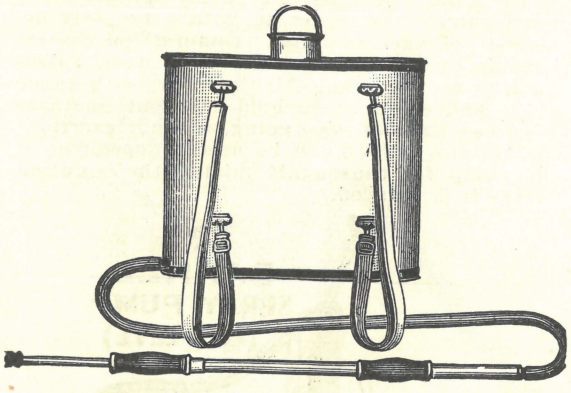
No. 2 "Rega" Barrel Sprayer. Instant Release Barrel Plate (for side or end of barrel). Hose Nuts and Tails (two). Cyclone Duplex Nozzle. Drip Guard. Hose Male Tail. Code Word, "YUGIT."



Price: Without barrel, £6/15/-. With barrel skids and the following equipment. — Hose, 15 ft. x ½ in.; Extension, 9 ft. x ¼ in. pipe; Cut-off Tap, Drip Guard, Nozzle: Cyclone-Duplex. Price, £10/10/-. Code Word, "YOGOV." Illustrated leaflets sent on request.

Sales Tax, where applicable, must be added to all prices on this page.

H 48—Ladywood Spray Pump



Outfit comprises all-brass double-action spray pump, polished and lacquered, giving continuous spray; 3½ feet of suction hose, and heavy iron strainer, that keeps hose from working out of bucket or container. Four nozzles supplied (including one for fire-fighting), with which the operator can get any variety of spray necessary; will throw a solid stream of water thirty to forty feet. It is the ideal all-purpose Hand Spray, its field of utility being practically unlimited. Most useful for spraying trees, vines, hops, potatoes, or any ground crops, whitewashing, disinfecting, spraying stock, fire-fighting, and car washing. No bucket is supplied. The Knapsack Tank, as shown, is extra. Price, 45/– each, complete with Knapsack.

Pump only, 22/6 each. Code Word, "YUFUV."

H 49—"REGA" Lead-coated Knapsack Spray

For Sulphuric and Other Acids.

Capacity 3¼ gals.

Code Word, "YUFTO."

This is without doubt the finest Knapsack of its kind in the world. The lever system employed gives tremendous power to a long pump, ease of action, and high pressure. An important feature is the patent overflow valve above the plunger, which does away with the unpleasant leakage of liquid from the stuffing box, which usually finds its way to the operator's clothes.

You can spray any mixture in these containers, even acids. Price, £5/7/6.

With Brass Containers, £4/5/–.

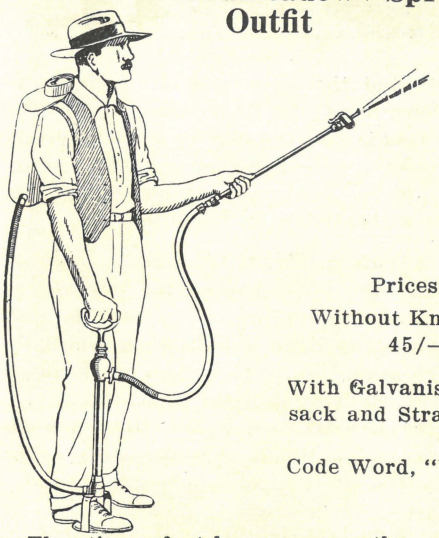
H 50—"Le Sans Rival" Spray Pump

The ideal Spray Pump for market gardeners.

Code Word, "YOVYJ."

"Le Sans Rival" Spray Pumps are the result of 40 years' experience in France. Have the latest and best features. Copper non-corrosive tank, 17 in. x 14 in. x 7½ in. Holds 3½ gals. All liquids passed through two strainers. Economical to use; lasts a lifetime. Supplied with 2 ft. 6 in. hose, 18 in. brass extension and two nozzles. Price, 70/–.

H 51—"Broadmeadow" Spraying Outfit



Prices:

Without Knapsack, 45/–.

With Galvanised Knapsack and Straps, 60/–.

Code Word, "YUGAR."

The stirrup foot has overcome the working on soft ground difficulty, and, as the pump draws its supply through a suction hose from any sized container, the pump only has to be moved.

For orchard spraying, a barrel of spray mixture is taken on a sledge or spring cart between the rows, and with 20 to 30 feet of suction hose the orchardist can work all round the tree without moving the barrel once—compare this with the old method with a kerosene tin that had to be moved and replenished frequently.

For working between rows of field crops a knapsack tank is carried on the operator's back, and the pump is fed, as shown in the illustration.

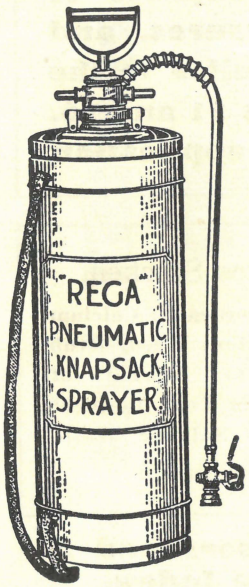
The pump is equipped with four feet of SPRAYING HOSE, wire armoured, carrying a 15 in. BRASS LANCE ROD fitted with a plug tap and a detachable angle bend.

Two Nozzles are supplied, a well-made BORDEAUX and a self-clearing LIME-WASHING NOZZLE.

Sales Tax, where applicable, must be added to all prices on this page.

H 52—

"Rega" Pneumatic Knapsack Spray



Capacity, 3 gals.

Size, 7in. x 20in.

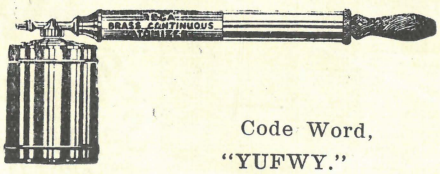
Nett Weight, 9 lbs.

Code Word, "YUGRA."

Designed to give the best service, and made in special brass alloy. Seams double locked, riveted and soldered. Special attention is drawn to the new improved Combined Pump and Locking Device, simple in construction, powerful, and effective in operation.

Another feature—the "Rega" Air Lock Tube—is incorporated in the Container—a new departure for this type of sprayer. You cannot fill the container too full of liquid—it is air retaining. The "Rega" Air Lock is the safety factor. Every outfit is tested to 60 lbs. pressure. Full instructions for operating with each sprayer. Supplied, as illustrated, under the usual "Rega" guarantee, 75/-.

H 53—"Rega" Continuous Atomizer



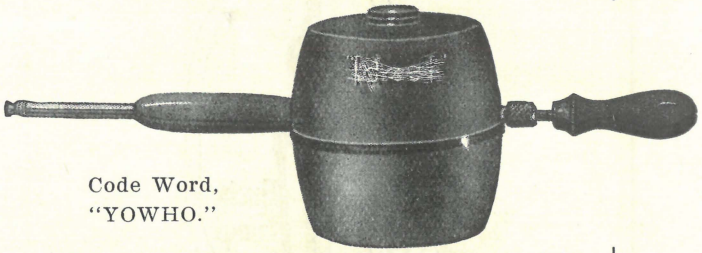
Code Word, "YUFWY."

This sprayer is specially designed for Spraying Disinfectants and Insecticides for Garden and Household Use. The atomiser and container, and all parts in contact with the liquid, are of solid brass.

Price, 9/6 each.

H 54—The "Ideal L.B." Sprayer

REPEATING SPRAYER—Without a rival, giving more than 100 sprays to one quart of liquid, and projecting several yards away a fine, misty spray, which penetrates everywhere.



Code Word, "YOWHO."

THE "IDEAL L-B" SPRAYER has manifold applications, and gives results unknown hitherto, as regards the fineness of the spray, the high pressure obtained on the liquid, and the range of its projection; further, three different jets can be obtained.

For watering—Seeds, Plants, Fruit Trees, Rose Trees, in the Garden, Green-Houses, etc.; for disinfecting—Stables, Chicken Houses, Kennels, etc.

	1 quart	2 quart
Brass . . .	20/-	25/-
Copper . .	22/6	27/6

H 55—The "Iron Arm Minor" Spray Pump

A new British Spray Pump, strong and efficient, at a price below any other. Suitable for all kinds of liquid sprays. Nozzle can be adjusted to give a fine mist, a gentle rain, a heavy shower, or a powerful jet.

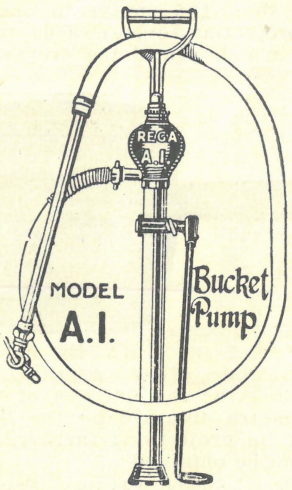
Solid drawn brass tubes are used throughout. The 3-ply hose is detachable. May be used with a kerosene tin or bucket. Price, 19/9. Code Word, "YUJOY."

We can supply "Ajax" Spray Pump with 2 inch cylinder and brass valves. This Pump is capable of very high pressures, and is generally similar to the "Ajax" on pages 11 and 16.

Particulars on Application.

Sales Tax, where applicable, must be added to all prices on this page.

H 56—Bucket Spray Pumps



Suitable for the Garden, Small Orchard, Poultry Farm, Garages, Lime and Whitewashing, etc., etc.

No bucket is supplied.

27/6.

Slightly Smaller Model,

25/-.

We can supply "Ajax" Spray Pump with 2 inch cylinder and brass valves. This Pump is capable of very high pressures, and is generally similar to the "Ajax" on pages 11 and 16. Particulars on application

Spraying Mixtures Stocked.

Red Spraying Oil; Dry Bordeaux; Calcium Arsenate; Benzole Emulsion; Weed, Scrub and Tree Killer (Powder); Arsenate of Lead Paste; Arsenate of Lead Powder; Nicotine Sulphate; Lime Sulphur Wash.

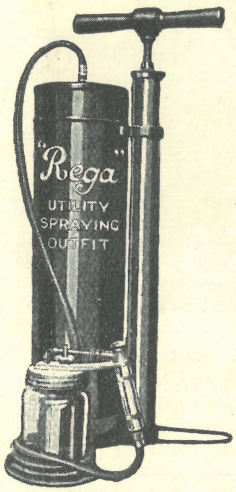
Particulars on Application.

For Air Compressors and Air Receivers see Index.

H 59—

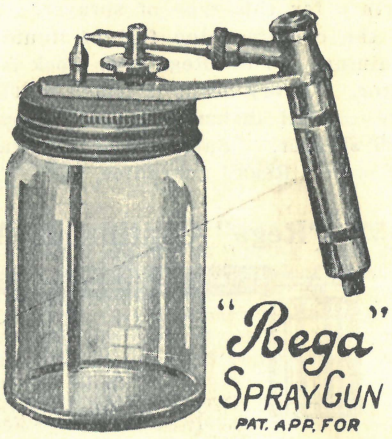
"Rega" Utility Hand-Power Spraying Outfit

Scientifically designed. Simple in construction. Easy to operate. Efficient and quickest way to apply all kinds of LIQUIDS to all kinds of surfaces, particularly Lacquers, Paints, Enamels, Bronzes, Horticultural Sprays, Oils, Disinfectants, Insecticides, Germicides, and the like.



For HOUSE use, this outfit is ideal. It is so easy to operate. The old-fashioned brush way is dirty and messy. The new "Rega" way is ideal. Wickerware, Lattices, and Awkward Articles are finished with ease.

For GARAGE use, the "Rega" Spray Gun gives a fine atomisation to the material with uniform results. It will spot and finish without spattering. You can carry it right to the job, and, with a separate glass container for the various kinds and colours of materials ready for instant use, a touch up job can be completed in a few minutes. You can spray around the engine with kerosene; the shackles, springs, etc., with oil; the interiors with disinfectants or the like. If you have a free air plant you simply attach the "Rega" Gun; it is fitted with a union for that purpose.



For FACTORY use, it is indispensable; you can take it to the work. The "Rega" Spray Gun covers smoothly and uniformly, without sags or runs, fatty edges, streaks or thin spots, whether the surface is large or small, flat or irregular.

Price £3/7/6, complete; Spray Gun only, 22/6. Code Word "YUJEV."

Sales Tax, where applicable, must be added to all prices on this page.

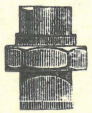
Particulars of Spraying Mixtures on request

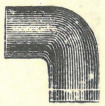
STANDARD PRICE LIST OF

Wrought Iron Tubes and Fittings

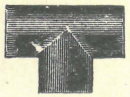
FOR

Gas, Water and Steam

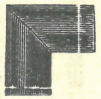

UNION


ROUND ELBOW

DIMINISHED SOCKET


TEE

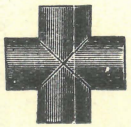
BACK NUT


ELBOW

PLUG

CAP

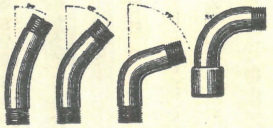
NIPPLE


CROSS

Large Stocks Always Available

Discounts Quoted on Application

SOCKET


30° 45° 75° 90°
BENDS

Internal Diameter in Inches	⅛&¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6
TUBES.														
TUBES, Random Lengths, Screwed and Socketed . . . . . per foot	–/4	–/4¼	–/5½	–/6¾	–/9¼	1/1	1/4½	1/10	2/10	3/3	4/–	4/5	6/–	7/6
LONG SCREWS, 12 to 23½in., each . .	–/11	1/–	1/3	1/7	2/2	2/10	3/9	5/3	9/–	12/–	15/6	17/–	26/6	35/6
,, ,, 3 to 11½in. ,, . .	–/8	–/9	–/10	1/1	1/5	1/11	2/6	3/6	6/6	8/6	11/6	13/–	20/–	28/–
BENDS	–/8	–/9	–/11	1/2	1/7½	2/7½	3/2	5/2	12/–	18/–	25/–	32/6	105/–	150/–
SPRINGS, Not Socketed	–/5	–/6	–/7	–/9	1/1½	1/11½	2/3½	3/11	9/6	14/6	20/–	26/6	93/–	132/–
FITTINGS.														
ELBOWS, Square	–/10	–/11	1/1	1/3	1/6	2/2	2/7	4/3	9/6	14/–	22/–	28/–	95/–	150/–
,, Round	–/11	1/–	1/2	1/5	1/8	2/4	2/10	4/8	10/6	16/–	24/–	30/–	95/–	150/–
TEES	1/–	1/1	1/3	1/7	1/10	2/6	3/1	5/1	11/6	18/–	26/–	32/–	98/–	155/–
CROSSES	2/2	2/4	2/9	3/3	4/1	5/6	6/7	10/6	22/–	40/–	56/–	66/8	220/–	350/–
SOCKETS, Plain	–/3	–/3	–/4	–/5	–/6	–/8	–/10½	1/3	2/6	3/6	5/–	6/–	12/–	18/–
,, Reducing	–/4	–/5	–/6	–/7	–/9	1/–	1/4	2/–	5/–	7/–	9/–	11/–	35/–	55/–
FLANGES	–/9	–/10	1/–	1/2	1/4	1/9	2/–	2/9	5/–	8/6	10/–	11/6	18/–	27/–
CAPS	–/3½	–/3½	–/5	–/6	–/8	1/–	1/3	2/–	4/4	6/–	9/9	10/6	30/–	45/–
PLUGS	–/3	–/3	–/4	–/5	–/6	–/8	–/10	1/3	2/6	4/9	7/–	10/–	30/–	48/–
BACKNUTS	–/2	–/2	–/3	–/3½	–/5	–/6	–/8	1/1	2/3	3/6	4/6	5/6	18/–	26/–
NIPPLES	–/2	–/2	–/3	/3½	–/4	–/6	–/8	1/–	2/3	3/6	4/6	5/6	18/–	26/–
MAIN COCKS	1/6	1/9	2/3	2/10	4/2	5/4	7/–	11/6	17/6	26/–	40/–	47/9	125/–	165/–

DISCOUNTS QUOTED ON REQUEST

As this Catalogue was compiled during a period of fluctuating prices, those shown may be changed without notice.

McPhersons PTY. LTD.

Price of Cutting and Screwing Pipe, 1 Cut and Screw

Sockets are extra for any cut length. Waste to be charged for.

⅜in.	½in.	¾in.	1in.	1¼in.	1½in.	2in.	2½in.	3in.
6¼d.	7¼d.	8½d.	10½d.	1/4	1/9	2/5½	5/3	6/4

Approximate Weight of Wrought Iron Tubes and Fittings

Size.	TUBES. Weight per 100ft. cwt.	qrs.	lbs.	Weight per 1000ft. tons	cwt.	qrs.	lbs.	FITTINGS. 10 Elbows. lbs.	ozs.	10 Tees. lbs.	ozs.	10 Bends. lbs.	ozs.
⅛	—	—	24	—	2	0	16	1	2	1	4	1	2
¼	—	1	14	—	3	3	0	1	8	1	13	2	1
⅜	—	2	0	—	5	0	0	1	14	2	5	3	6
½	—	3	0	—	7	2	0	3	0	3	7	5	14
¾	1	0	0	—	10	0	0	4	7	5	9	11	6
1	1	1	27	—	14	3	18	7	0	8	6	15	12
1¼	1	3	19	—	19	0	22	11	0	13	6	23	4
1½	2	1	16	1	3	3	20	16	0	18	12	33	4
2	3	1	26	1	14	3	8	23	8	29	14	52	10
2½	4	2	26	2	7	1	8	46	0	51	0	94	0
3	5	2	17	2	16	2	2	62	0	82	0	124	0
4	7	1	21	3	14	1	14	110	0	145	0	230	0

H 61— Ammonia Tubes and Fittings

All Sizes up to 3 inch Diameter

PRICES AND PARTICULARS ON APPLICATION

H 62— "Mannesmann" Seamless-Drawn Boiler Tubes

List Prices per Foot

External diameter in inches	1	1¼	1½	1¾	2	2¼	2½	2¾	3	3¼	3½	4
Imperial wire gauge	13	13	13	13	12	10	11	11	11	10	10	9
Equivalent in inches	.092	.092	.092	.092	.104	.104	.116	.116	.116	.128	.128	.144
Price per foot of usual W.G.	9½d.	9½d.	9½d.	10d.	11⅜d.	1/3¼	1/2½	1/3¾	1/5	1/8	1/10	2/4½

If so desired, ends of Boiler Tubes will be swollen before despatch.

PRICES SUBJECT TO DISCOUNTS OR ADDITIONS

H 63— *Hydraulic Tubes*

Screwed and Socketed. Tested 3,000 lbs. per square inch.

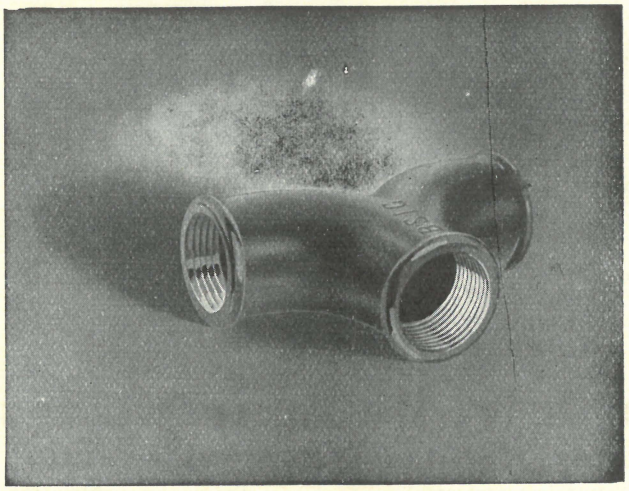
Size	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Outside diameter	⅞ in.	1 1/16 in.	1⅜ in.	1 11/16 in.	1 15/16 in.	2 7/16 in.
Thickness	.160 in.	.192 in.	.212 in.	.232 in.	.252 in.	.300 in.

PRICES ON APPLICATION

H 65—

BSIG Malleable Pipe Fittings

BLACK and GALVANISED



Experiments have proved that BSIG will withstand enormous pressures. Amongst various tests carried out by David Kirkaldy & Sons' Testing and Experimenting Works, London, was one wherein an Elbow Fitting was subjected to various pressures. It withstood the enormous pressure of 12,000 lbs. per square inch.

Details regarding other tests are shown in our BSIG Catalogue.

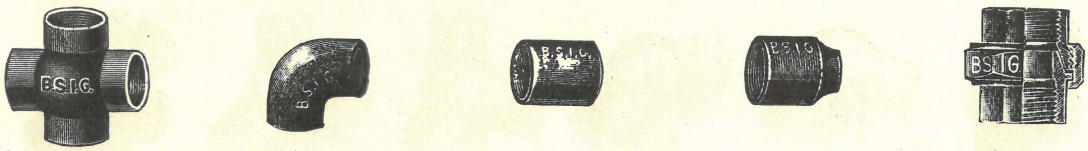
Special B S I G Catalogue sent on request.

Every B S I G Fitting tested to a high pressure, Guaranteed true to size, and carefully threaded

List Prices of a few Fittings only are shown.

	⅜in.	½in.	¾in.	1in.	1¼in.	1½in.	2in.
Bends, M.F. each	10¾d.	1/1¼	1/6	2/3½	3/6	5/–	7/6
,, Female ,,	1/–	1/2½	1/8½	2/6	3/10¾	5/6	8/3½
Elbows, M.F. ,,	9½d.	10¾d.	1/3½	1/10¾	2/9½	3/9½	5/6
Elbows, Female ,,	8½d.	9½d.	1/2½	1/8½	2/7¼	3/6	5/–
Tees ,,	9½d.	1/–	1/4¾	2/–	2/9½	4/–	5/6
Crosses ,,	1/2½	1/4¾	2/–	2/9½	3/7¼	5/2½	7/2½
Sockets	4¾d.	5¾d.	7¾d.	10¼d.	1/3½	1/9½	2/7¼
Sockets, reducing	5½d.	6¾d.	8¾d.	1/–	1/6	2/–	3/–
Bushes							
Hx. Nipples	6d.	7¼d.	9½d.	1/–	1/7¼	2/2½	3/2½
Plugs, beaded	3¼d.	4¼d.	6½d.	8¼d.	1/1¾	1/7¼	2/1¼
Caps (round)	3¼d.	4¼d.	6¼d.	8½d.	1/1¼	1/7¼	2/0½
Backnuts	2¾d.	3¼d.	4¼d.	5¾d.	7½d.	10¼d.	1/5¼
Flanges	1/4¾	1/9½	2/4¾	3/–	3/6	4/2½	5/–
Unions	2/–	2/4¾	3/–	3/7¼	4/9½	6/4¾	9/–

Discounts Quoted on Request



Over 5,000 Types of B S I G FITTINGS available

H 64— Australian Malleable Fittings

Black and Galvanised.

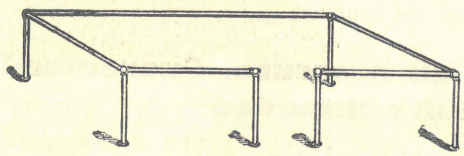
	⅛in.,¼in.,⅜in.	½in.	¾in.	1in.	1¼in.	1½in.	2in.
1. Socket Unions . . . . . each	1/8	2/–	2/6	3/–	4/–	5/4	7/6
2. Elbows . . . . . ,,	–/6	–/8	–/11	1/4	1/10	2/3	3/6
3. Elbows M & F . . . . . ,,	–/7	–/9	1/1	1/6	2/1	2/7	4/2
4. Elbows 3 Way . . . . . ,,	1/2½	1/4¾	2/2½	2/10¾	4/4¾	6/–	8/–
5. Tees . . . . . ,,	–/7	–/9	1/1	1/6	2/1	2/7	4/2
6. Crosses . . . . . ,,	–/9	–/11	1/4	1/10	2/6	3/1	5/–
7. Sockets (Plain and Beaded) . . . . . ,,	–/3½	–/4¾	–/6½	–/8½	–/11½	1/3½	1/11
8. Sockets Reduced . . . . ,,	–/4	-/5½	–/7½	–/10	1/2	1/6	2/3
9. Flanges . . . . . ,,	–/10	1/–	1/4	1/8	2/–	2/4	3/1
10. Caps . . . . . ,,	–/3	-/4	–/6	–/8	–/11	1/3	1/11
11. Plugs . . . . . ,,	–/2	–/2½	–/4	–/5½	–/7½	–/10	1/2
12. Backnuts . . . . . ,,	–/2¼	–/2½	–/3½	–/4	–/5½	–/7½	–/11½
13. Hexagon Nipples . . . . ,,	–/3¾	–/5½	–/7¼	–/9½	1/4	1/8	2/6
15. Bushes . . . . . ,,	–/3	–/4	–/6	–/8	–/11	1/2	2/2
16. Bends M & F . . . . . ,,	–/8	–/10	1/1	1/8	2/10	4/–	5/10
17. Bends F & F . . . . . ,,	–/8	–/10	1/3	1/10	3/–	4/6	6/8

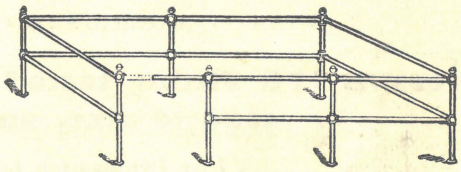
Discounts quoted on request

B.S.I.G. Malleable Galv. Railing Fittings

For Fences Enclosing Engines, Machinery Exhibitions, Etc.

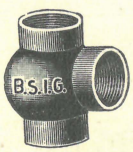
In Ordering, please describe kind wanted by number and size. Prices on application.





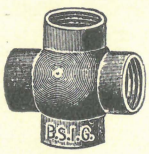
No. 1

No. 2



No. 3

No. 4



No. 5

No. 6

No. 7

The above 8 Fittings are stocked in sizes ½, ¾, 1, 1¼, 1½, 2 inches

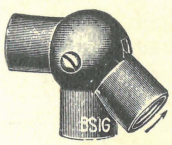
No. 8

The following are stocked in 1¼ inch only:—

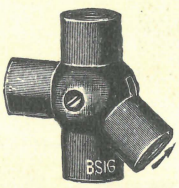
No. 1001

No. 1002

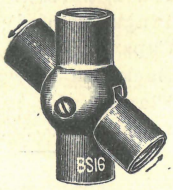
No. 1003



No. 1004

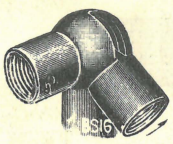


No. 1005

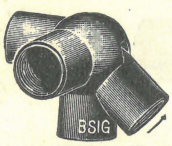


No. 1006

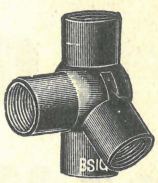
No. 1020



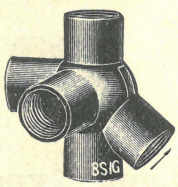
No. 1021



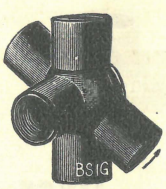
No. 1022



No. 1023



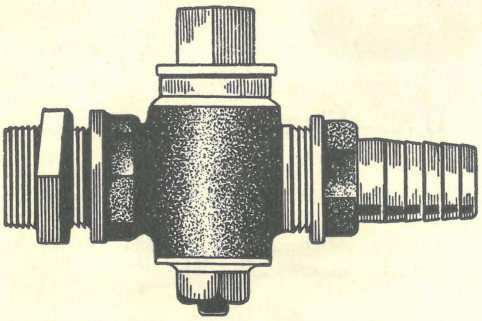
No. 1024



No. 1025

Plumbers' Brassware

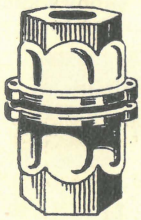
H 66—Tank Cocks, with Union for Hose



Sies—¾ 1 1¼ 1½ 2 2½ 3 inch

Prices on application.

H 67—Retention Valves—Galv.

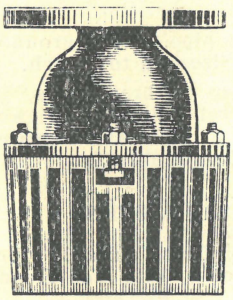


¾in. 1in. 1¼in. 1½in.

2in. 2½in. 3in. 4in.

Prices on application.

H 68—Foot Valve and Strainer



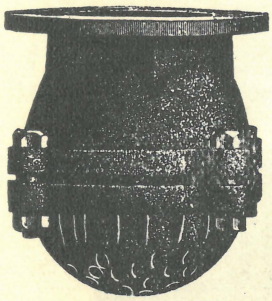
As used with Centrifugal Pumps, etc.

Cast Iron Flanged.

Specially designed to give large waterway.

1½	2	2½	3 inch
15/–	17/–	25/6	33/6

4	5	6 inch
55/9	89/–	111/–

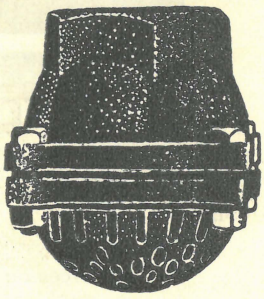


H 69—Flanged Foot Valve

Sizes—

3 3½ 4 5 6 inch

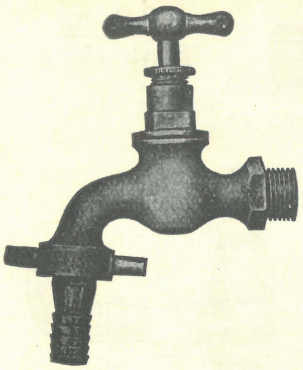
H 70—Galvanised Screwed Foot Valve



Sizes —

1 1¼ 1½ 2 2½

3 3½ 4 inch

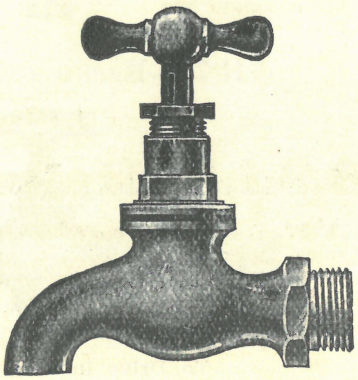


H 71—High Pressure Hose Bib Cock

½ to 2 inch

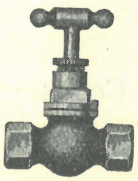
Prices on Application.

H 72—High Pressure Bib Cock



½ to 2 inches

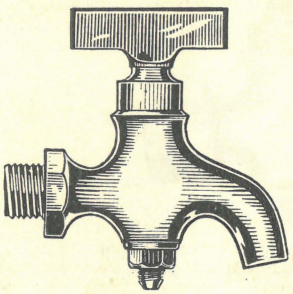
Prices on Application.



H 73—High Pressure Stop Cock

Sizes—½ to 2 inches

Prices on application.

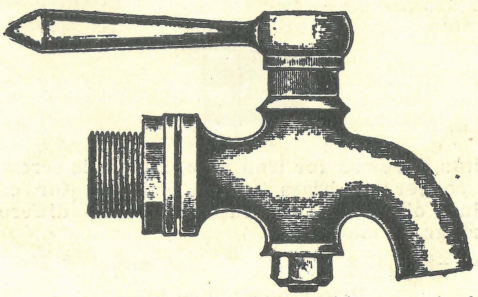


H 74—Low Pressure Bib Cock

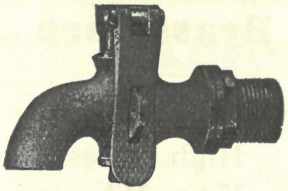
Sizes—½ ¾ 1 inch

Prices on application.

H 75—Tank or Range Cock



Sizes—½ ¾ 1 1¼ 1½ 2 inch



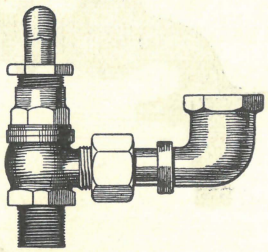
H 76—Lock-up Tank Cock

Sizes—½ ¾ 1 inch

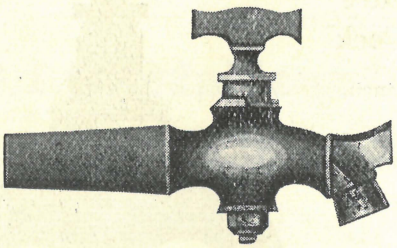
H 77—Main Cock With Elbow Union

Sizes—
¾; 1 x ¾, 1;
1 x 1¼, 1;
1 x 1½

Prices on application.

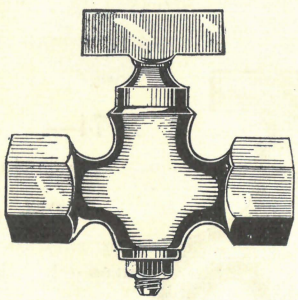


H 78—Racking Cocks



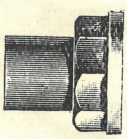
To Drive into Casks.
Suitable for Oils, Spirits, etc.
Sizes—½ ⅝ ¾ inch

H 79—Low Pressure Stop Cocks



Sizes—½ ¾ 1 inch

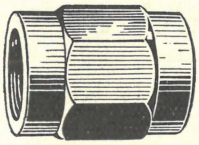
H 80—Brass Nuts and Tails



Nuts, screwed for iron pipe, and tails screwed for copper or brass tube. Suitable for conveying oil from lubricators to the different bearings of machinery.

Sizes—⅜in. I. x ⅜in. B. ⅛in. I. x ⅜in. B.

Prices on application.

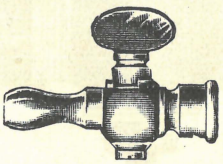


H 81—Sockets

⅛ ¼ ⅜ ½ ¾ inch
1 1¼ 1½ 2 inch

Prices on application.

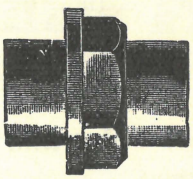
H 82—Flexible Tube Cocks



Sizes—⅛ ¼ ⅜ ½ inch
Prices—1/6 1/6 2/– 2/6 each

We can also supply Tees, Sockets, Elbows and Nipples, screwed brass threads, 26 to the inch.

H 83—Brass Barrel Unions

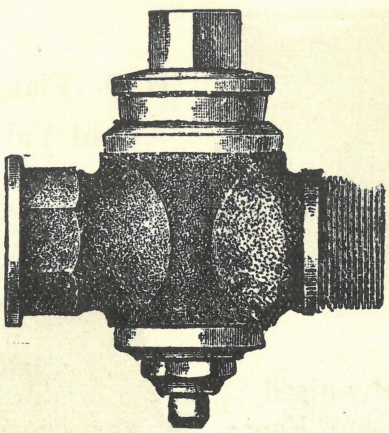


Screwed for wrought iron pipe. With ground joints. Finished all over. Sizes—⅛ to 2 inch.

Special Union, for copper or brass tube, ¼ inch. We supply Brass Barrel Unions, with two Female Ends, up to 2 inch, or Male and Female Ends up to 1 inch. Prices on application.

H 84—Brass Main Cocks

With Male and Female Ends, suitable for Gas or Low Pressure Water. With Tee Head and as illustrated.

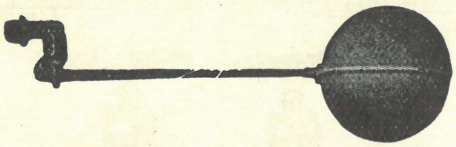


Stocked both Full-Way and Ordinary. Sizes—1 to 3 in.

Sizes—¼ ⅜ ½ ¾ 1 inch
1¼ 1½ 2 2½ 3 inch

Prices on application.

H 85—Croydon Ball Valve



Brass, with Copper Balls complete.

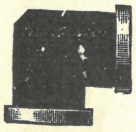
Sizes—½ ¾ 1 1¼ 1½ 2 inch

Copper Balls, in halves, 4½ to 9 inches in diameter.

H 86—Full-Way Croydon Ball Valves

Sizes—¾ to 1 inch

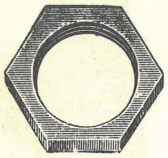
H 87—Brass, Round, Female, Elbow



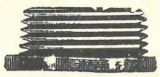
⅛	¼	⅜	½	¾ in.
6d.	6d.	7d.	8d.	1/- ea.
1	1¼	1½	2 inch	
1/6	2/6	on application		

H 88—Brass Lock Nuts

¼	⅜	½	¾ inch
3d.	4d.	5d.	6d. ea.
1	1¼	1½	2 inch
7d.	10d.	1/1	1/6 ea.



H 89—Brass Bushes



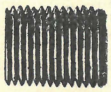
Screwed for Wrought Iron Pipe.

Sizes—Inch.

¼ x ⅛	⅜ x ⅛	⅜ x ¼	½ x ⅛	½ x ¼	½ x ⅜
¾ x ¼	¾ x ⅜	¾ x ½	1 x ¼	1 x ⅜	1 x ½
1 x ¾	1¼ x ½	1¼ x ¾	1¼ x 1	1½ x ½	1½ x ¾
1½ x 1	1½ x 1¼	2 x 1	2 x 1¼	2 x 1½	

Prices on application.

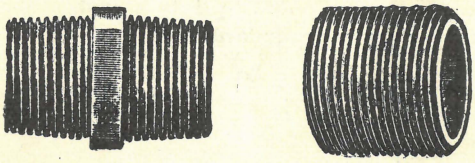
H 90—Nipples



⅛ ¼ ⅜ ½ ¾ inch

Prices on application.

H 91—Brass Nipples

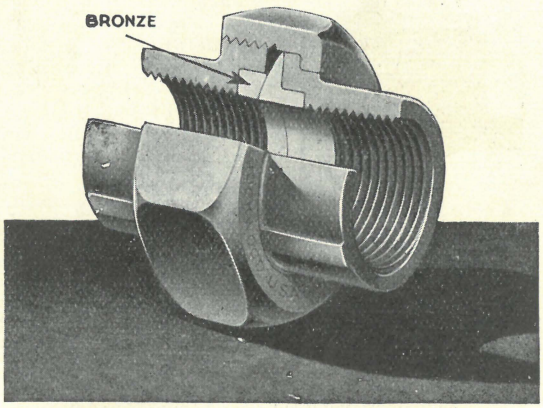


Hexagon Centre, and Plain, Screwed for Wrought Iron Pipe.

Sizes—⅛ to 2 inch.

H 92—

ROCKWOOD PRESSED STEEL UNION



Rockwood Union

The Rockwood Pressed Steel Union is cold drawn from the highest grade of open hearth steel; it is seamless, and free from blow holes so often found in castings.

Every Rockwood Union is sherardized, and therefore rustproof.

Rockwood Pressed Steel Unions are suitable for all requirements, as they can be furnished with two Bronze Seats or two Monel Seats.

FACTS ABOUT THE ROCKWOOD.

The Rockwood Union with Bronze seats is recommended for all working pressures up to 250 lbs. on lines containing air, steam, water, gas, oil and fluids that will not affect bronze. This union is sherardized after threading, and is thus protected against rust.

The Rockwood Union with Monel Metal Seats will withstand all superheat temperatures, and is especially adapted for lines carrying acids and chemicals that affect bronze.

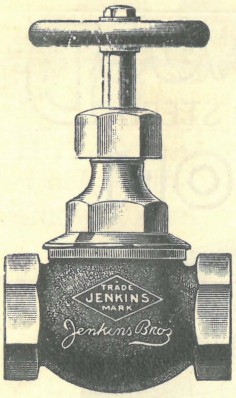
Rockwood Pressed Steel Unions are stronger than Cast Unions, and every Rockwood Union is carefully tested at 1,000 lbs. pressure.

Sherardized with Bronze Seats.

Sizes—¼ ⅜ ½ ¾ 1 1¼ 1½ 2 inch

Prices on application.

Valves



H 93—Genuine Jenkins' Gun-Metal Globe and Angle Valves

Fitted with Jenkins' Renewable Discs.

These Valves are made from special high-grade gun-metal, and are designed and guaranteed for a working steam pressure of 150 lbs. Can be repacked while wide open and under pressure.

(Screwed)

¼	⅜	½	¾	1	1¼	1½	2
8/6	9/6	12/9	19/–	23/–	31/3	43/–	68/–

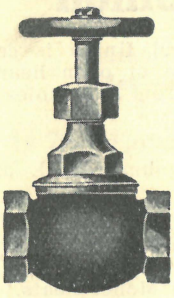
(Flanged)

1	1¼	1½	2	2½	3 inch
—	48/6	67/6	95/-	144/-	185/-

H 94—Jenkins' Patent Disc for Valves

¼	⅜	½	¾	1	1¼	1½	2 inch
4/9	5/6	7/6	8/6	10/9	12/9	16/–	24/– doz.

Also Stocked in sizes 2½ to 8 inch.



H 95—Gun-Metal Renewable Disc Valve

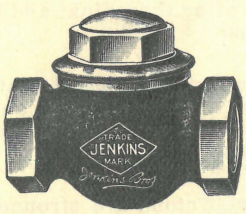
For pressures of 150 lb. Fitted with Genuine Jenkins' Compound Discs.

Screwed ends only. These Valves are similar to Jenkins'.

¼	⅜	½	¾	1	1¼	1½	2 in.
5/6	5/9	7/6	10/3	12/3	19/-	25/3	37/6 ea.

H 96—Jenkins' Gun-Metal Check Valves

Fitted with Jenkins' Renewable Discs.



½	¾	1	1¼
11/-	15/9	20/-	30/-

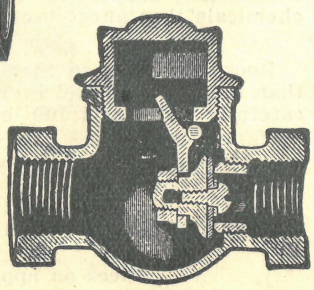
1½	2 inch
42/-	63/-

H 97—Swing Check Valves

½ to 3 inch screwed
1 to 3 inch flanged

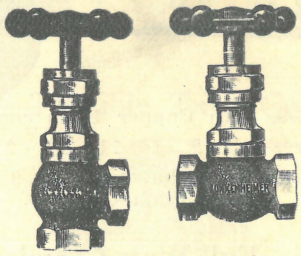
½	¾	1	1¼
5/9	6/6	8/6	11/3

1½	2	2½	3 in.
15/6	20/9	—	— ea.



H 98—Needle Valves

Are supplied in Globe or Angle Type, as illustrated.



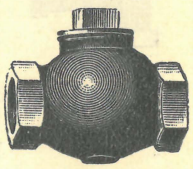
These Valves are carefully made of high-class bronze. Specially suited for air installations.

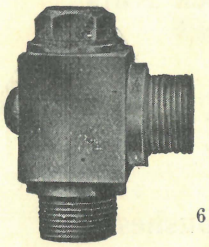
⅛	¼	⅜	½ inch
5/3	5/9	7/-	8/6 each

H 99—Gun-Metal Check Valves

Straight or Horizontal Type.

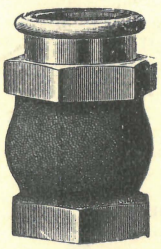
¼&⅜	½	¾	1	1¼	1½	2 in.
3/6	4/-	5/6	6/3	8/9	11/9	19/-





H 100—Right-Angle Type

½	¾	1	1¼	1½	2 in.
6/9	8/9	12/9	16/3	19/6	29/3

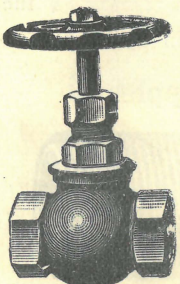


H 101—Gun-Metal Vertical Check Valves

With Screwed Ends.

Sizes—½ to 3 inch.

½	¾	1	1¼	1½	2 in.
4/9	5/9	8/-	9/6	13/3	20/- ea.



H 102—Gun-Metal Wheel Valves

Flanged Ends.

1 to 4 inch.

Standard Pattern—

1	1¼	1½	2
17/6	23/9	29/3	40/6

2½	3 inch
—	—

Screwed Ends. F and F. Also M & F.

¼	⅜	½	¾	1	1¼	1½	2	2½	3 in.
2/10	3/6	4/6	6/-	8/-	11/-	15/9	20/-	—	— ea.

N
621.6
M172

N
621.6
M172

McPherson's

Pty. Ltd.

PUMPS

FOR ALL

PURPOSES

Ramsay Publishing Pty. Ltd., 197-207 King Street, Melbourne.